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EXTRACTS OF ENDOCRINE GLANDS AND THEIR CLINICAL APPLICATION.¹

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HAD I realized how little I know of the subject matter of this discussion and how little exact knowledge anyone seems to have of the method of interrelation of the endocrine glands taken as a whole, I should never have ventured to take part in this discussion tonight. In doing so I do not pretend to bring forward anything original and my only hope is that I may be able to set out some general indications as to the lines along which the gynaecologist may hope to secure some help from organotherapy.

From the gynaecologist's point of view four glands are of chief importance. They are the thyroid gland, the hypophysis, the suprarenals and the ovaries.

¹ Read at a meeting of the New South Wales Branch of the British Medical Association on July 30, 1925.

With regard to the physiology of these glands, Frankel, of Vienna, states that the thyroid gland aids the metabolism of fat and albumin, the deposition of calcium and the liberation of sugar.

The hypophysis aids the metabolism of fat and albumin, the deposition of calcium and the liberation of sugar.

The medulla of the adrenal bodies aids the deposition of calcium and the liberation of sugar, while the adrenal cortex hinders the metabolism of fat and albumin.

The ovaries aid the metabolism of fat and albumin; they prevent the deposition of calcium and the liberation of sugar, in this assisting the pancreas.

Certain experiments, certain diseases and certain physiological states throw some light on the interrelation of these glands.

The Thyroid Gland.

Experimental removal of the thyroid in young animals may lead to sexual infantilism. Before puberty insufficiency diseases may lead to sexual infantilism. Delayed puberty also may be due to a mild hypothyroidism and thyroid feeding may hasten puberty.

After the age of twenty years, however, a small uterus cannot be made to grow. At puberty, before and during menstruation and during pregnancy we always get a certain amount of enlargement of the thyroid gland. After puberty hypofunction of this gland is often associated with amenorrhœa, dysmenorrhœa and monthly pain in the breasts. Blair Bell states that many patients with this condition are cured by thyroid feeding.

In myxœdema there is a dysfunctioning gland associated with amenorrhœa, lowered sex vitality and sterility; the exhibition of thyroid extract in such cases frequently results in such an improvement that menstruation is reestablished and fertility restored.

In exophthalmic goitre the menstruation may be normal or in severe cases there may be amenorrhœa which I believe is an unfavourable symptom. Frankel treats such patients at the outset with ovarian extract. The general condition of these patients frequently improves if a pregnancy supervenes. Atrophy of the sex glands may develop in this condition.

The thyroid, therefore, has a definite influence in relationship to the function of the ovary.

The Hypophysis.

In the case of the hypophysis experimental removal in animals causes infantilism. Mild hypopituitarism causes delayed puberty and pituitary feeding may cure. Loss or impairment of the function among other changes results in a condition known as *dystrophia adiposo genitalis*, in which there is heavy deposition of fat in the breast, the lower part of the abdomen and thighs, definite atrophy of the vulva associated with amenorrhœa, loss of sexual appetite and sterility. In hyperpituitarism there may be disturbance of the ovarian function; slight enlargement of the gland may be associated with profuse hæmorrhages. In acromegaly there is a large gland, but a dysfunctioning one, and as far as the ovary is concerned the result is amenorrhœa.

The pituitary then has a direct relationship to the ovary and as a matter of practical experience it was found during the war that anterior lobe extract ("Antiphysan" or "Antuitrin") was the best means of curing the functional amenorrhœa caused by grief and shock (Frankel).

All extracts of the posterior lobe of the pituitary contract the uterus, if already activated, but not otherwise.

A word of warning as to the use of pituitary extract in obstetrics.

It is contraindicated during the first stage of labour because it will set up violent uterine contractions, causing excessive pain at a time when it is impossible for the uterus to expel the child; the result may be rupture of the uterus if the musculature is weak.

The first essential in such a case of primary inertia is to discover the cause of the inertia. Such causes as obliquity of the uterus, a full bladder or rectum, previous disease of the uterine wall or fibroids, overdistension as in hydramnios or twins

or abnormal adhesion of membranes to the lower uterine segment preventing formation of the bag of waters all have their appropriate treatment.

Nervousness is another cause which is to be met by inspiring confidence in the patient and by giving her rest and sleep.

Pituitary extract may be given during the second stage of labour where the *os uteri* is fully dilated and when the expulsive efforts of the uterus are either feeble or ineffective and only then, of course, in the absence of any cause for an obstructed labour, as here again its use would be extremely likely to cause rupture of the uterus. I would confine its use to the type of nervous patient that we have all met, who in spite of a normal presentation, a fully dilated cervix and a head moulded and through the brim, seems incapable of bearing down, though personally I have never used it in my life and never propose to do so.

In the flabby non-contracting uterus of the third stage, pituitary extract usually produces a renewal of strong uterine contraction. It is more rapid in its action than ergot, but also more transitory. Where there is a tendency to *post partum* hæmorrhage, therefore, I combine it with ergot. Pituitary extract causes contraction of the uterine muscle; ergot causes contraction and retraction.

In Cæsarean section Williams recommends one cubic centimetre injected into the posterior wall of the uterus immediately after the delivery of the child. It is one of the most valuable drugs we possess in the treatment of postoperative shock.

The Suprarenal Bodies.

Great enlargement and therefore probably hypersecretion of the suprarenals causes precocious sexual development shown in the female by enlargement of the clitoris, growth of hair on the face and pubis.

The Ovaries.

The functions of the ovary are threefold: (i.) the control of the menstruation, (ii.) the production of ova and (iii.) the formation of an internal secretion.

The occurrence of menstruation seems bound up to a certain extent with the necessity for calcium elimination.

As a result of the activities of the thyroid, hypophysis and adrenal medulla calcium is stored up presumably in preparation for the demands that a pregnancy would make upon the prospective mother.

One of the advantages of menstruation would appear to be the elimination of the surplus. Blair Bell states that menstrual blood contains thirty times as much calcium as ordinary circulating blood. The power of the ovary to eliminate calcium is shown in osteomalacia which is probably due to a hyperfunction of the ovaries; at any rate removal of both ovaries has a remarkably curative effect. Further, when the calcium value of the blood is deficient, amenorrhœa is the rule and is cured by calcium therapy.

The menorrhagias of puberty and the menopause in the absence of pathological conditions of the sex

organs are probably due to faulty interrelation between the thyroid and pituitary and the ovary, leading to hyperactivity of the ovary. It would seem reasonable in such cases to give thyroid and pituitary extract (posterior lobe).

With ovulation we need not concern ourselves here. The internal secretions of the ovary are apparently two in number, one of which controls menstruation, the other acts upon the vasomotor system. Extirpation of the ovaries causes the menopause, but it also causes vasomotor disturbances, such as blushing, headaches and other neuroses; these symptoms are worse the more feminine (or ovarian) the type of woman.

It has been suggested that the *corpus luteum verum* forms an internal secretion which has some influence in determining the fixation of the ovum in the uterus and for that reason *corpus luteum* extract is used in cases of threatened abortion. I have had so far no practical evidence of its usefulness, though I have tried it in several instances.

There have recently been prepared two extracts from the *corpus luteum*, "Agomensin," said to be useful in starting menstruation, and "Systomensin," said to be useful in stopping menstrual bleeding. Besides these there are trade preparations such as "Corpus Luteum Extract," "Ovarian Extract (Whole Ovary)," "Ovarian Residue," that is ovary minus *corpus luteum*. Ovarian extract in the natural and artificial menopause gives in my experience very varying results. I have one patient extremely neurasthenic after a subtotal hysterectomy. Her complaints are chiefly inability to do anything without becoming terribly exhausted, pain in her ovarian regions, backache, headache, flushes and so on. This patient, a widow, invariably improves on ovarian extracts and puts on weight, but after a couple of months has to cease taking the extract because of the worry caused her by the way it stirs up her sexual desires.

In other cases I have tried the extract without any success. It should certainly be tried in conjunction with anterior lobe pituitary ("Antuitrin," "Antiphysan") in functional amenorrhœas.

Ovarian extract is in my experience surprisingly efficacious in the treatment of conditions caused by deficient circulation of the skin and external genitals; such conditions as pruritus, kraurosis and furunculosis in elderly women and dryness and irritability of the skin at the menopause. I have one patient at the menopause who suffers from a generalized dryness of the skin. She invariably improves rapidly on ovarian extract.

Two swallows do not make a summer, of course, but I really think the improvement in these cases is due to the extract, not to the "faith" with which I have been able to imbue these patients.

Glandular Treatment.

The lines along which treatment by organotherapy may be based are as follows.

Substitutive.

A gland being deficient, a like effect to the normal action of the gland may be obtained by feeding a

patient on the gland extract. Examples of substitution are those immediate effects produced by "Insulin" in diabetes and by ovarian extract for the symptoms of the menopause.

Homostimulation.

Hallion's law states that the extract of an organ administered in suitable amounts has an elective stimulating action on the functional activity of the same organ in the patient to whom it is administered. If this be so, this action of the gland extract is one of its most important attributes; it helps to restore the sick gland to its normal function.

Symptomatic.

In this type of therapy advantage is taken of the well known activity of certain of the gland extracts, such as adrenal, adrenalin and pituitrin. In this connexion there is no idea of affecting any of the profound endocrine actions. If we require to make the muscle of the uterine wall contract, we give pituitrin which we know will produce the desired effect. The extract is used simply as a drug.

Empirical.

An empirical form of therapy is based solely upon knowledge gained from actual clinical experience that a certain gland substance or combination of substances exercises a favourable action upon a clinical syndrome.

Hormone Therapy by Reciprocal Action.

The hormonal action is based upon the correlation of the endocrines and includes such measures as the treatment of amenorrhœa by pituitary and thyroid. Here action is directed not to the gland actually at fault, but to one or more of the group of glands known as synergists, that is glands acting in conjunction with one another.

Antagonistic effects of the different groups of glands also fall into this class of therapy.

Protean Therapy Effects.

Borchardt and others have suggested that some of the effects noted in organotherapy may be due to the therapeutic action of the protean bodies. Many extracts, such as those of the pituitary and adrenal, according to Borchardt, increase the immune reactions.

J. C. Hirst, in the *New York Medical Journal* (October, 1921) gives the following indications for the different preparations of ovary.

Whole ovary is given in the natural menopause, surgical menopause and the late establishment of menstruation.

Ovarian residue is given in the late development of puberty, in infantilism, in irregular menstruation at puberty, in menorrhagia of youth and in obesity and amenorrhœa.

Corpus luteum is given to control the nausea of pregnancy, in habitual abortion without demonstrable cause, for scanty menses or functional amenorrhœa of youth, for *pruritus vulvæ* in elderly women and for sterility.

THE ENDOCRINE AND MENTAL DISORDERS.¹

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THE thyroid is the gland the influence of which upon mentality is best known and the changes brought about by the difference in the gland activity most clearly evidenced and easy to observe.

Taking the two extremes of hyperactivity and hypoactivity as exhibited in exophthalmic goitre and myxœdema, the mental states accompanying these are found to be quite different and between these two extremes are found many grades and variations according to the degree of dysfunction of this gland.

The subject of Graves's disease shows symptoms on the maniacal side, she is restless, sleepless, irritable, irresponsible and self assertive and may pass through an attack of acute or subacute mania.

The subjects of lesser degrees of hyperthyroidism, are lively, full of life, fond of music and dancing and are energetic, if irresponsible and vacillating.

Owing to a secondary stimulation of the ovarian function there are often menstrual irregularities. Williams also says that even if the physical signs subside, the patient remains much altered in character and becomes and remains aggressive, selfish and unreasonable and that her children are seldom normal.⁽¹⁾

In the condition of thyroid insufficiency which in the more advanced stages includes cretinism, infantile myxœdema and myxœdema the mental state is the opposite to that just described. Myxœdemics are dull, apathetic, without interests in life and indifferent to their surroundings and are distinctly melancholic, often being found with delusions of persecution and hallucinations of hearing. The latter are said to be due to mucoid infiltration affecting the ear structures.

Cretins and infantile myxœdemics if they live and are allowed to grow untreated become imbeciles, usually of low grade, but one of our patients aged fifty two years, has an intelligence quotient of 60.

Myxœdemics are lacking in sexual instinct and are usually sterile, although subthyroid mothers of lesser degree produce cretins, Mongolians and probably other abnormalities.

Both athyreoid and hyperthyroid conditions may be brought about by almost any toxæmic conditions, but more especially by a toxæmia set up by intestinal stasis. The toxæmia stimulates the sympathetic which stimulates the thyroid to activity; in some cases an increase of activity is maintained and in others the thyroid becomes exhausted and unable to maintain its normal function. The thyroid normally stimulates the excretion of toxins, more especially those resulting from cell metabolism; its exhaustion is followed by a greater accumulation of toxins, resulting in a further lowering of the activity of this gland, thus creating a vicious circle.

McCarrison is of opinion that cretinism results from an intestinal toxæmia affecting the mother. He produced cretinoid animals by feeding the mothers upon faecal cultures from goitrous and non-goitrous subjects from districts where goitre is common.⁽²⁾

Thyroid in Treatment.

The use of thyroid in cases of cretinism and myxœdema is well known; with thyroid therapy the mental symptoms in these conditions become cured as well as the physical ones. Thyroid is useful in toxic cases, especially if given with a vaccine, when it seems as might be expected to aid the action of the vaccine. Thyroid gland affections of toxic origin probably include a large number of the more acute conditions as well as many others.

Thyroid gland is usually given in small doses, 0.015 to 0.12 gramme (one-quarter to two grains) *per diem* being sufficient. It may be and often is given as originally advocated by Willock in 1899⁽³⁾ and first used I believe in this country by Dr. McDouall, late of Gladesville Hospital, in large doses commencing at one gramme (fifteen grains) a day and increasing daily or alternate days to five grammes (seventy-five grains).

This treatment is not exactly scientific and according to Sajous⁽³⁾ by increasing the metabolism often floods the blood with metabolic toxins and so defeats its object. It is by no means without danger, but by its use some brilliant results are obtained, as one recently recorded by Dr. Sawkins, of Kenmore,⁽⁴⁾ of a patient cured after twenty years' residence in mental hospitals. Thyroid is a stimulator of most of the endocrine glands and its method of operation is probably by stimulating into activity the defectively acting gland or glands. It also greatly changes all the metabolic processes and in this way brings about a recovery in much the same way as will occasionally an acute illness, such as enteric fever or pneumonia.

The following cases illustrate thyroid dysfunction.

M.M., a female *etatis* fifty-one years, height one hundred and twenty centimetres, weight 42.6 kilograms, mental age three and a half years, intelligence quotient 22. She is unable to receive education but has a fair memory. Her menses commenced at the age of twenty; they were always regular, but the duration is now decreasing. She has short thick bones, prominent cheeks and abdomen, supraclavicular pads of fat, a curved spine, wrinkled skin of the face and forehead, defective and dry hair, characteristic of athyreoid conditions.

For four years prior to admission she had been treated with thyroid extract without improvement. Before treatment she had been of good behaviour and had been capable of indicating to her sister when anyone was entering the shop. After treatment she became mischievous and was apt to throw bricks and stones at the customers (see Figure I.).

McM., another cretin *etatis* fifty-three years, mental age nine years and eight months, intelligence quotient 60, weight 32.2 kilograms, height one hundred and thirty-one centimetres. He has the same physical characters as the preceding patient, except that his skin is of a much more athyreoid nature, being dry and scaly. There is no hair on the face or body (see Figure II.).

Shortly before admission he developed delusions that women were watching him and his conversation was largely on sexual matters.

¹ Read at a meeting of the New South Wales Branch of the British Medical Association on July 30, 1925.



FIGURE I.
Athyreoidism.

These two cretins differ from the majority in being alive at their ages. Most cretins die quite young, having a poor resistance to disease and increased liability to infection. Sexually they are both more developed than would be expected, the female menstruating from the age of twenty to fifty and the male boasting of sexual experience.

W., a female with signs of mild athyreoidism and an enlarged thyreoid gland, the symptoms being a pulse rate of sixty, absence of eyebrows and thickening of the subcutaneous tissues. She has very cold extremities and the skin on exposure assumes a peculiar mottled effect resembling marble.

She was admitted in 1919 when seventeen years of age and has been in and out of hospital several times since. Each time (within from a week to four months) she wanders from home and is generally found on some seaside verandah; once or twice she has been arrested for petty crimes. She cannot give an account of what happens during her wanderings and states that she is compelled to leave home and cannot resist the impelling force.

In May 1924, she had both ovaries and tubes removed; the ovaries were cystic and the tubes contained pus. In December she was again allowed out on leave. On January 31, she left home and two days later she was found gagged on a vacant allotment of land. She stated to the police that four men had gagged and assaulted her, giving minute details of the assault and the names and addresses of her assailants. This statement was later proved to be quite false. Her early wanderings may have had a sexual stimulus and the peculiarity of the case is that this girl who is an athyreoid individual, (usually associated with lessened sexual instinct) the removal of whose ovaries should have still further diminished that instinct, should have invented a charge grossly sexual, indicating a psycho-

logical sexuality when there is every reason not to expect it. Her symptoms can hardly be explained from an endocrine standpoint and it is difficult to explain them psychologically in the absence of thyreoid and ovarian stimulus.

None of the other endocrine glands is associated with abnormal mentality in the same way as is found in abnormal activity of the thyreoid, though hyperactivity and hypoactivity of the pituitary, suprarenal and gonads are associated with definite mental characteristics and with definite physical attributes.

The pituitary may be regarded as being of two parts, anterior and posterior. Overactivity of the anterior portion is associated with increase of bone growth and increase of male secondary sex characters and with a corresponding masculine mentality, whether found in male or female patients.

When hyperpituitarism dates from early life, the patient is usually deficient in educational training and as a rule is of low intellect.

If commencing later the patient shows temperamental changes and difference from former capabilities, there is wakefulness, lack of concentration, indecisiveness and irritability.⁽⁵⁾

Langdon Brown has written⁽⁶⁾:

Hypertrophy of the anterior lobe is apt to be followed by degeneration of the gland and the patient is then apt to develop moral and intellectual inferiority and

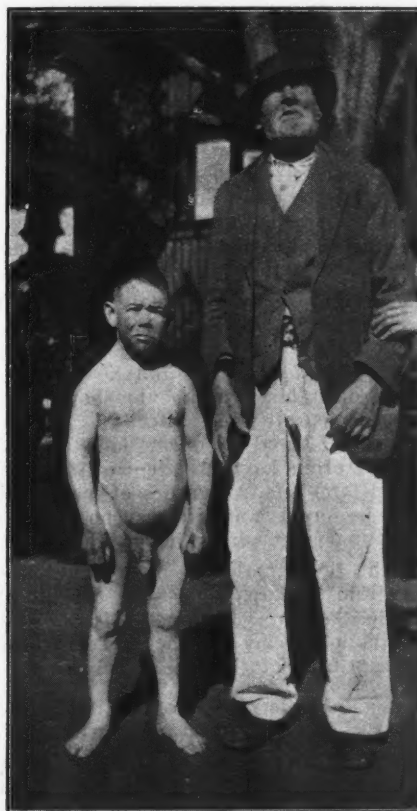


FIGURE II.
Cretin with Sexual Delusions.

to suffer from compulsions and obsessions and the lack of inhibitions. Such individuals are pathological liars, with little or no initiative or conscience. As children they lie and steal, have enuresis, have poor control over themselves and low learning capacity.

This, of course, is a sweeping statement and probably incapable of proof.

However this may be, we have a patient in whom we diagnosed an injury to the pituitary as a result of a fractured skull, whose moral character after the accident became extremely degraded.

We have also had several lads who about puberty became absolutely untrustworthy, would wander from home for days and commit petty thefts. The majority of these leave the hospital apparently well and do not return.

If there is any foundation in Langdon Brown's hypothesis, these changes in character may be due to temporary pituitary failure at a time of readjustment.

Hypoactivity of anterior lobe is exhibited in cases of the Lorain Levi type, that is small and undeveloped subjects, short in height, with slender bone, hands and feet small and tapering of *en petit* type. They are infantile in mind and body, the genitalia remain undeveloped, if the patient is a female, there is amenorrhœa or metrorrhagia. There is also absence of secondary sex characters. These persons are usually imbeciles when found in mental hospitals.

Lesions of the posterior lobe are generally those of underactivity when a condition of *dystrophia adiposo-genitalis* is found, the physical signs of this condition varying as to whether the gland action fails before or after puberty. It is said that the same symptom complex may be produced by lesions of the mid-brain. It can be produced experimentally by destroying the posterior lobe of the pituitary or cutting the stalk and so for the sake of convenience and illustration we shall look upon these symptoms as due to pituitary dysfunction.

The mentality of early hypopituitarism is one of imbecility or imbecility with epilepsy. Cushing first pointed out the connexion of epilepsy with *dystrophia adiposo-genitalis* and he says that the puppies used in his experiments showed evidence of disturbed mentality; he describes them as being simple and foolish and evidencing lack of sense when at play and often having epileptic fits. "If commencing in later life, all grades of mental disturbances may be found from mild psychoses to extreme mental derangement with epilepsy."⁽⁷⁾

Although these patients have an excess of adiposity and perhaps a greater weight than a myxœdemic, they are very much brighter and more active with no special tendency to depression and are generally found to be willing helpers.

Pituitary in Treatment.

In the treatment of mental affections pituitary is certainly worth a trial in epileptics who show signs of diminished activity of this gland. Cushing advocates the use of whole gland pituitary and records a case of a patient cured by its use.⁽⁸⁾ Spears and Tucker relate the histories of patients who have

recovered and remained well for some length of time after being treated with anterior pituitary extract. Harrower advocates the use of posterior pituitary extract in exophthalmic goitre.⁽⁹⁾

Pituitary extract when injected into a patient with Graves's disease, will reduce instead of increase the pulse rate. The reduction may be from thirty to seventy beats per minute. Beside its action upon the heart its action upon the intestine and kidney favours the elimination of toxins. This reduction of the pulse by pituitary in Graves's disease makes it of value as a test for hyperthyroidism. It is advocated for reducing weight in *dystrophia adiposo-genitalis* and for promoting growth in the mentally and physically retarded.

Pituitary headache said to be due to physiological hypertrophy of the gland and characterized by severe pains, usually between the temples and deeply seated behind the eyes and associated with dyspituitary signs, may be cured with from 0.12 to 0.48 gramme (two to eight grains) of whole pituitary daily.

In patients with mental symptoms with amenorrhœa in whom the amenorrhœa is probably due to want of ovarian secretion, whole gland pituitary extract either alone or combined with calcium is of great value.

We have had several patients in whom amenorrhœa has been prolonged for years, others in whom the menstrual function has never been established or has never been regular and under its influence the flow has become established or reestablished and regular.

We have five patients suffering from *dystrophia adiposo-genitalis*, said to be due to dysfunction of the posterior lobe of the pituitary, resulting in metabolic and genital changes. The degree of change in primary and secondary sex characters depends partly upon the age of the patient when the pituitary function fails.

They all show the excessive adiposity and general effeminate conformation, enlarged mammary glands and deficient genital development. Some have deficient hair growth on both the face and body, but in two this is not so, these patients having a normal amount of body hair, the pituitary has probably failed after puberty. All except one are epileptic. The condition of one patient is unusual in that there is a persistent glycosuria and a high blood sugar concentration varying in ten estimations from 0.13% to 0.2%. Another patient is unusual in that he is a low minded individual, his conversation being largely indecent and his body hair growth is more abundant than usual in these conditions (see Figure III.).

P., was thirteen years of age when the photograph was taken. Two years previously he had been knocked down by a motor car, was unconscious for five days and later had a double internal strabismus and diplopia.

Before the accident he had been a normal boy of gentle disposition, obedient and well up to the average at school. After the accident his character completely changed. He became untruthful and quite irresponsible and it was found impossible to give him further education. Twelve months after the accident he had fifteen epileptiform fits in one series, after which his mental failure was more

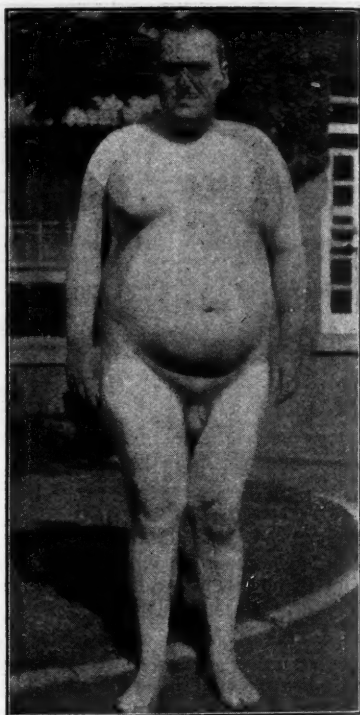


FIGURE III.
Adiposo-Genitalis.

noticeable. He wandered from home, became cruel to animals and committed sexual malpractices.

This boy's mental deterioration followed a severe head injury. It is probable that he received damage to the pituitary body. The sexual over-development, activity and perversion and perhaps the general moral deterioration may be explained by an irritative lesion of the anterior lobe and the effeminate *ensemble* to want of secretion of the posterior lobe, the symptoms of athyreoidism as shown by the thin coarse hair and lack of eyebrows being secondary to the pituitary lesion.

This case supports Langdon Brown's contention that pituitary changes will be followed by changes in moral character.

Gonads.

Gonads in their relation to mentality have lately received much prominence owing to Mott's work on the connexion of these glands and primary dementia and the work of Steinach and Sands and others on the influence of the activity of these organs on senile changes and the alteration of physical and mental qualities brought about by suitable operations. Mott points out that in primary dementia in addition to the unmistakable changes in the brain nerve cells, the interstitial cells of the gonads are absent and spermatogenesis is absent or slight. Mott does not look upon these changes as primary, but regards the various glandular alterations he has described as due to an inherited asthenic nervous system which lacks the power of regulating the growth and development of the reproductive and other glands.

Hayes suggests that the primary cause of *dementia præcox* is in the ductless glands and not in the brain and he argues this from the fact that there are secondary brain changes in myxœdema and that dysfunction of the interstitial cells will affect the other endocrine organs and ultimately the brain.⁽¹⁰⁾

Fausser found in the serum of patients with *dementia præcox* defensive ferments against the sex glands and against cerebral cortex. From this he concludes that a primary dysfunction of the sex glands leads to the entrance into the blood of an abnormal protein and that from the breaking up of this protein substances are formed which are injurious to the cortex and which bring about destruction of the latter.⁽¹¹⁾

Although it is clear from the teachings of Mott and others that there is degeneration of the interstitial and reproductive cells in *dementia præcox*, the fact remains that castration either early or late or in either sex is not followed by primary dementia or other mental diseases, but is followed by changes in growth, fat distribution and in character, varying with the age at which the operation is performed. It is claimed that senile changes are due to lack of activity of the interstitial hormone and that the interstitial cells are much stimulated to growth and activity, if the reproductive cells are put out of action. To accomplish this various operations have been devised. These operations are stated to be followed by remarkable changes, both in the physical and mental states of the patient who is said to become completely rejuvenated both in mind and body.

Hayes⁽¹⁰⁾ states that:

The thickened arteries and fibrotic heart, considered to be the cause of old age, are merely the effects of deprivation of the interstitial secretion . . . arteriosclerosis has been entirely cured by reintroducing the interstitial hormone into the blood stream.

This statement of Hayes is of interest. It was taught that the interstitial secretion was antagonistic to that of the posterior lobe of the pituitary and its use was advocated by Collin and Carson White in primary dementia with high blood pressure.

It is now stated upon experimental observation that injections of ovarian extract stimulate the posterior lobe of the pituitary to greater activity.

We have given ovarian extract or "Didymin" to young epileptics and others with high blood pressure, with apparent lowering of blood pressure.

In the case of a lady aged fifty-four years, with a systolic pressure of 260 millimetres of mercury, after a few weeks of "Varium," her blood pressure fell to 130 millimetres and she became extremely asthenic and was restored to her former health only after substituting small doses of thyreoid. If the treatment played any part in the causation of the fall in pressure, it could not have been by way of limiting the pituitary action, but it might have been by means of the "Varium" supplying some of the lacking hormone. About fifteen months later she died suddenly from a large cerebral hæmorrhage. *Post mortem* her ovaries were found to be completely calcareous.

Dr. Edwards and I are making observations upon the influence of gonad extracts on the blood pressure. These observations are incomplete, but the results have been sufficiently surprising to warrant mention here. The blood pressure of mental patients is extremely variable and will often vary ten to twenty millimetres of mercury between two observations without any apparent cause. This variation is probably caused by uncertain expectation excited by placing the band around the arm. We have checked our observations with the greatest care at every reading, taking the blood pressure of each patient separately and together.

Eight males and four females with abnormally high blood pressure for their ages have been selected for these observations. Their ages vary from seventeen to seventy years. Their serum did not give a positive Wassermann reaction. Seven men were given "Didymin," one of these later was given "Varium" and one had "Varium" only. Pressure readings were taken weekly. In six of the seven men on "Didymin" a maximum systolic fall varying from ten to twenty-eight millimetres occurred, the average being nineteen millimetres. These men had a maximum diastolic fall of from eight to twenty millimetres, the average was 12.66 millimetres of mercury.

One man did not react to "Didymin," but did react to "Varium," his systolic pressure fell twenty and his diastolic pressure fell eighteen millimetres.

Of the four women the systolic pressure of one was unaffected; in the remaining three a fall of from sixteen to thirty-four millimetres of mercury was recorded, the average fall was 23.33 millimetres. Their diastolic fall was eighteen to fifty-two millimetres of mercury, with an average of 32.5 millimetres.

It seems as if neither the high pressure nor the subsequent fall can be attributed directly to gonadal influence; there is no rise in blood pressure at the menopause nor after removal of the gonads. However the action comes about, it would seem as if in the gonadal extracts we may have in selected cases a superior means of controlling blood pressure

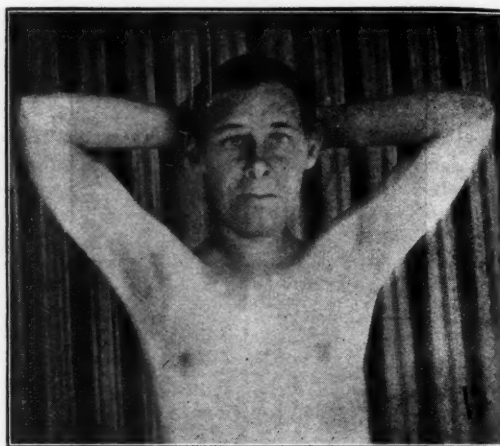


FIGURE V.
Same patient as in Figure IV.

than those previously used. The nitrates, diet, rest and purging provide only temporary benefit. Our patients have not been dieted, kept at rest or otherwise treated during the period of observation.

We would like to add a word of warning. The blood pressure is largely an individual peculiarity, one person may be well in mind and body with a pressure with which another would be acutely ill. In the former class it is neither safe nor wise to reduce their pressure.

Since the above was written our experience is somewhat wider. In some cases the lowered blood pressure continues for some weeks after the treatment has been discontinued. In other cases there is a rise immediately after discontinuance and again in others the results have been irregular and changeable. The blood pressure is an extremely variable quality, anyway in our patients and we have not taken controls. This renders us at present unable to draw conclusions.

Examples of Agonadal Cases.

This patient is shown here, in contrast to the following two patients, although we look on her condition rather as due to want of activity of the anterior lobe of the pituitary of Lorain Levi type than of agonadal origin.

The patient, W.D., is small and slim, with very slender bone and poor mammary development. The menses commenced at fifteen years and are regular in recurrence. In this she differs from the next two patients who have complete amenorrhœa and show a more complete suspension of the ovarian function (see Figures IV. and V.).

It is worthy of note that Joan of Arc, as pointed out by the late Dr. Charles MacLaurin in "Post Mortem," suffered from glandular deficiency and this girl is physically an exact replica of his description of "*la Pucelle de la France*."

An imbecile woman, aged forty-three years, has an intelligence quotient of 33. Her general appearance is like a boy's. She has no mammary development, no axillary hair; the hair on her head is thin and fine and her pubic hair is scanty. The skin is darkly pigmented in the axilla, around the garter lines and on her forearms. The thyroid and thymus are not detectable. She has never menstruated and it is reported that her ovaries and uterus are infantile.

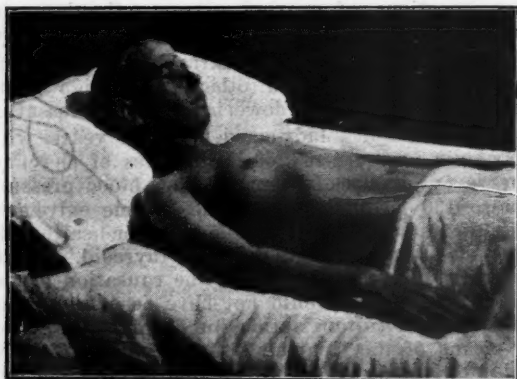


FIGURE IV.
Girl of boyish type; lack of activity of the anterior lobe of the pituitary gland.

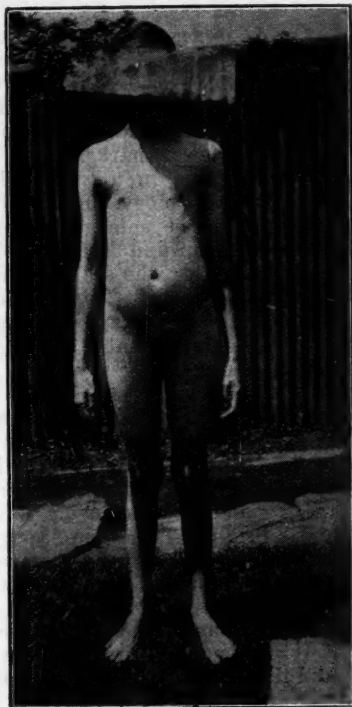


FIGURE VI.
Primary Ovarian, Aovarianism or Deficient
Anterior Pituitarism.

Her condition might be taken as anterior pituitarism, from which has followed a want of bone development and a want of development both of the primary and secondary sex characters.

Another girl of boyish appearance, aged seventeen years, is suffering from myoclonic epilepsy. She has no mammary development, no axillary or pubic hair and has not menstruated. She manifests the eunuchoid growth, that is the lower height is greater than the upper and her span is greater than her height.

Her condition might, I think, be taken to be primary ovarianism or deficient anterior pituitarism; it is debatable which. According to some authorities ovarianism is associated with excess of adiposity which this girl lacks. The eunuchoid measurements are in favour of the ovarianism (see Figure VI.).

A case of testicular deficiency.—The genital organs of H. are infantile and the breasts are large and pendulous. The fat distribution is of feminine character and there is poor hair growth on the body and face. The hands and feet are slender, the pelvis is large and well formed and the voice is high pitched and of a peculiar intonation. He was seventy years of age when the photograph was taken. He had been admitted seven years previously (see Figure VII.).

Another eunuchoid was sixty-eight years of age when admitted. He has the long limb growth and great span that goes with delayed ossification of the epiphysis in agonadism. He has no hair growth on his body or face and has never shaved. The genitals are quite infantile and when admitted he had the compensatory delusion that a lady with a similar deformity was constantly pursuing him (see Figure VIII.).

Suprarenal.

The suprarenal has not any known direct connexion with mental states in the same way as has the thyroid in that its activity either lessened or increased produces any syndrome that can be labelled as such.

Nevertheless that the suprarenals have some connexion with cerebral development seems borne out by the fact that in the human young the suprarenals are many times larger in proportion than in any other animals and the anencephalic monsters have no suprarenals.

Sajous says that the adrenal secretion is the oxygen absorbing agent of the blood and after absorbing oxygen from the air, it becomes a constituent of the hæmoglobin and thereby is the main-spring of oxidation and metabolism⁽¹³⁾ and that in adrenal deficiency there "is mental torpor, slow cerebration and even idiocy where adrenal deficiency is initiated *in utero*."⁽¹⁴⁾

In the treatment of certain types of mental conditions we think that suprarenal extract has a very definite and very beneficial use. In cases in which shock, fright, severe illness or exhaustion have played a part in the ætiology, whether these factors have caused mental symptoms, neurasthenia or epilepsy, more especially in cases of an asthenic type, we have found suprarenal extract useful. It is of value in young subjects with well developed

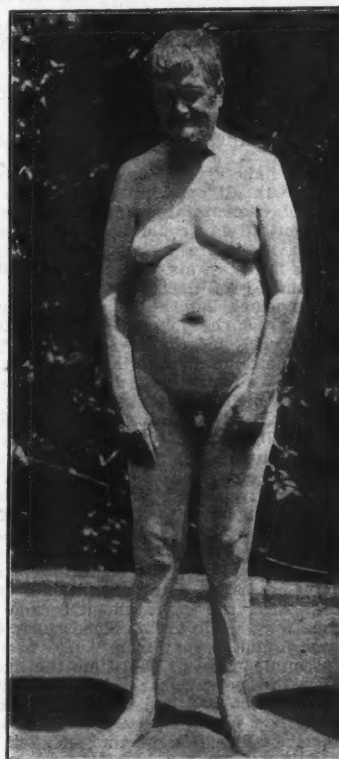


FIGURE VII.
Testicular Gonadal Deficiency.



FIGURE VIII.
Agonadism.

secondary sex characters (indicating that the glands that influence the development of these characters, have at one time been fully active) who have become asthenic, dull and inactive with low blood pressure and who do not react to injections of adrenalin.

These we have regarded as having once a suprarenal overactivity, that has become played out. We have had good results in treating these patients with adrenalin or suprarenal gland extract.

A small-headed imbecile, aged thirty-one years, has abundant hair growth all over his body, which rendered him very monkey like in appearance. When first in hospital he lay about all day, could hardly be roused, would not converse, had no interests, was quite indifferent to all things and was faulty in his habits. His blood pressure was under one hundred millimetres of mercury. His blood count was about normal, but the small mononuclear cells were nearly as many as the polynuclear. The blood sugar concentration was 0.05% and there was no urinary reaction to 0.3 cubic centimetre of adrenalin. The dermatographic reaction was white. We looked upon his condition as suprarenal overactivity which had passed into one of underaction. He was given thyroid from 0.03 to 0.06 gramme daily and an injection of 0.3 to 0.6 cubic centimetre of adrenalin on alternate days. This was continued intermittently for three months. The change was gradual but great. He became lively and bright, conversed freely, became a keen card player, employed himself usefully and made two attempts to escape. The glandular treatment has changed him from a vegetative to an active, if not intellectual individual. His mentality is now probably as good as, if not better than it has been at any period of his existence. After the improvement became manifest, some estimations were made on his blood sugar concentration when it was found to vary from 0.07% to 0.16%. In three leucocyte counts made at this time the average was 12,000, of which the polynuclear cells represented 62%, small mononuclear cells 31% and large mononuclear cells 3%. He gave a slight urinary sugar reaction to 0.3 cubic centimetre of adrenalin. He became so well that his friends removed him from the hospital and he has now been away for three years and writes bright letters to his former companions.

The Thymus.

Though as far as is known the thymus has no direct bearing upon my subject, yet it seems to play an important and much overlooked part in epilepsy. We have also found thymus useful in the treatment of some mental conditions and I therefore think this gland is worth a few remarks.

In epilepsy the thymus in all probability has nothing to do with the ætiology. But *post mortem* the thymus is found to be enlarged in the great majority of these patients and is invariably found enlarged in those epileptics who die suddenly either during or shortly after a fit. This applies to all those found dead and said to have been smothered in their pillow. This enlargement is often to a great degree, we having found many thymuses as large as the palm of the hand.

Some years ago Dr. Evan Jones examined a number of these glands taken from epileptics and divided them into two classes, which he termed the infantile and regenerative. He found some of these regenerative thymuses in epilepsy commencing late in life and of traumatic origin. This would suggest that the enlargement is in some way compensatory, but why or how it is as hard to say, as it is to state what is to be compensated.

It is stated that thymus will cause a retention of calcium, that it prevents an accumulation of acid in the body and that it is antagonistic to the action of the thyroid and suprarenals.

We thought that the enlarged thymus might be beneficial by exerting any of these actions.

It was taught that the blood was unduly on the acid side in epilepsy, but now the opinion seems to be the opposite and it is stated by recent investigators that there is an alkalosis.

As an agent in treatment we have found thymus very useful in epilepsy and this we thought was brought about by the same influence we attribute to the enlarged thymus. Since reading Wallis and Nicol's paper on protein hypersensitivity and epilepsy, we thought it possible that as thymus is rich in albuminoid bodies, its action might be a

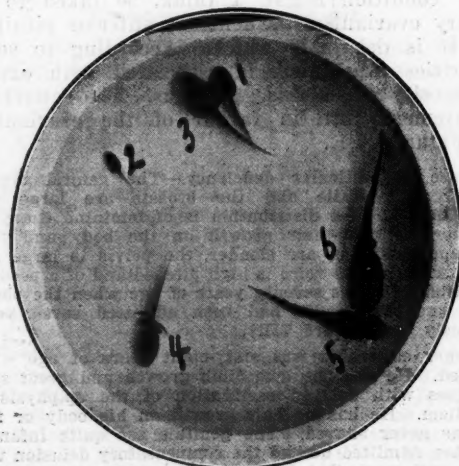


FIGURE IX.
Result of feeding tadpoles with glandular extracts.

desensitizing one similar to the peptone used by Wallis and Nicol. We made a solution of the thymus tablet and found the solution gave positive reactions to tests both for peptone and proteose. This left us still further in the dark as to the possible mode of action of thymus in epileptics.

We gave thymus to those insane patients who manifested uncontrolled sexual irritability under the belief that thymus inhibits the action of those glands that make for this irritability. The results have been good, many patients while taking thymus improved greatly in their ways and habits.

Feeding Tadpoles with Gland Extracts.

In 1918 we fed tadpoles with glandular extracts from October 27, 1918 to January 17, 1919, a period of three months.

The results were published in *The Journal of Mental Science* of January, 1920, and are shown in the photograph taken in January, 1919, of tadpoles then surviving (see Figure IX.).

The tadpoles are divided into six groups: (1) the controls, (2) those fed on parathyroid, (3) those fed on thymus, (4) those fed on "Didymin," (5) those fed on suprarenal and (6) those fed on anterior lobe of the pituitary gland.

The tadpoles were taken from the ponds and feeding was commenced when they were about four weeks old. The thyroid fed ones all turned into frogs within three weeks and promptly died; they were extremely small, very lively and quick in movements and suffered from syncopal attacks.

Of the others it will be seen that the parathyroid fed tadpoles are much retarded and those fed on anterior lobe of the pituitary are much stimulated in growth. The details can be found in the original papers.

We have since then made a series of observations and extended them for nearly two years, in the case of pineal and parathyroid fed tadpoles.

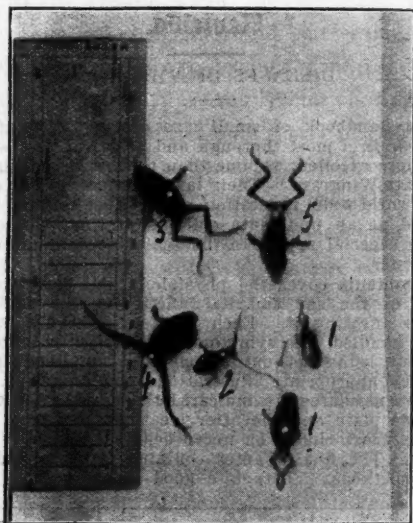


FIGURE X.
Result of Feeding Experiments.

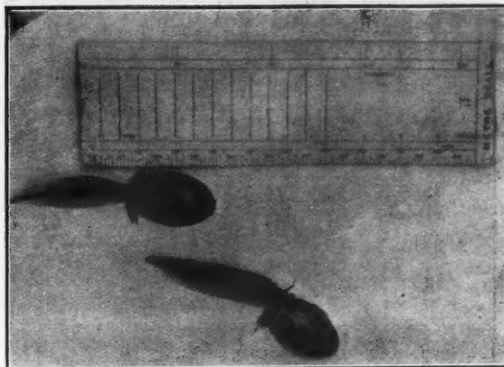


FIGURE XI.
Tadpole fed on Parathyroid.

In September, 1923, we obtained some spawn, which was hatched in the laboratory on and about September 14. On October 17, 1923, feeding with all glands was commenced, but as it was found to be impossible to take proper care of all these, I intend limiting remarks to those fed with thyroid, pineal, parathyroid and anterior lobe of the pituitary.

A normal tadpole should become a frog in three months, as did the controls in our last series of observations.

In Figure X. the tadpoles marked "1" are thyroid fed tadpoles hatched on December 22, 1924. Thyroid feeding was commenced when they were forty days old and they died ten days later. Their chief characteristics were their extremely small size and the fact that they became frogs thirty days too soon.

The pineal frog marked "2" was hatched on September 15, 1923, and at the time of his death was fifteen months of age, but he had been a frog for only twenty days. Besides his extremely diminutive dimensions it will be noted the extreme slenderness of his bone; in fact he can hardly be said to possess bone. He has no toes, each limb being prolonged into one slender thread. A full brother of this frog fed the same way, was a tadpole three months later and is still alive, now nearly two years of age and is a dwarf.

The frogs in Figure X. marked "3" and "4" were parathyroid fed and were of the same hatching as number 2, one being fifteen and one sixteen months old. They are apparently normal, but their development and metamorphosis has been greatly delayed.

The frog marked "5" has been fed on anterior lobe of the pituitary. It is aged two months and manifests a stimulated metamorphosis. This frog was hatched on December 22, 1924, and feeding was commenced on February 1, 1925; he became a frog on February 20, and immediately died. The last of this series became a frog on March 13, and it and several others are still alive. These frogs when three or four months old were about three times the size of the controls, were thick set with big limbs and thick bone. Their colour was a vivid green within

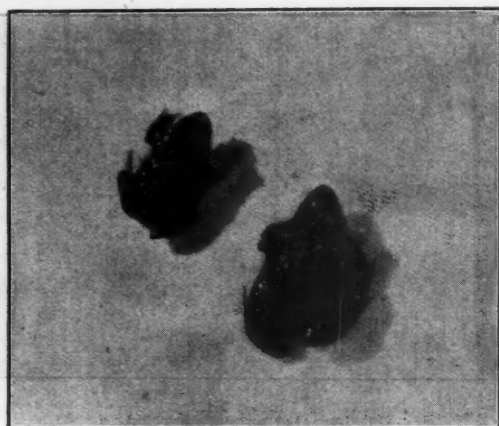


FIGURE XII.
(Same scale as Figures XI. and XIII.)

a day or two of losing their tails. We believe that this is a much quicker change than usual.

The next picture (Figure XI.) represents a parathyroid fed tadpole nineteen months of age and a normal tadpole nearly three months of age.

The smaller frog in Figure XII. was pineal fed and was twenty-one months old, while the larger was a parathyroid fed frog of the same age. Both revealed extreme dwarfism, brought about by glandular feeding.

A frog fed on anterior lobe of the pituitary (the larger) and the control (the smaller) in Figure XIII. were of the same hatching, namely December 2, 1924. The photograph was taken on May 10, when they were about four and a half months of age (see Figure XIII.).

The difference in the rate of development of the same fed tadpoles of the same hatch and in the same bowl is worthy of note, there often being many months between the development to the frog stage

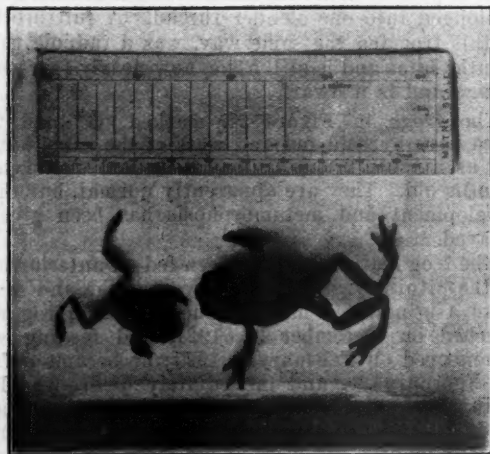


FIGURE XIII.
Frog fed on Anterior Lobe of the Pituitary.

of the first and last of each series. This may possibly be due to the influence of sex in each case.

The results obtained by feeding tadpoles with gland extracts and the reduction of blood pressure with these extracts disprove the oft repeated statement that these drugs have no effect when given by mouth.

My thanks are due to Dr. A. T. Edwards for assistance in preparing and for reading the paper, to Dr. K. McArthur Brown for suggesting and showing the lantern slides, to Mr. H. McGill for kindness in taking the photographs and to Miss A. Hurst for much trouble in typing and correcting the manuscript.

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Reviews.

DISEASES OF THE EAR.

For a handbook of small size dealing with affections of the ear in a most thorough and practical way we know of no more excellent volume than that of Dr. Milligan and Dr. Wyatt Wingrave. Their large manual on ear diseases has a world-wide reputation and this volume may be regarded as an up-to-date epitome of their larger work, with an especial appeal to the senior student and general practitioner.

The contents cover the physiology and complete examination of the ear and its functioning as well as the diseases affecting it. Each disease is briefly but thoroughly handled, its symptoms, diagnosis, prognosis and treatment being set out clearly and amplified in many places by appropriate illustrations and diagrams. When operative measures are indicated the necessary procedures are made plain and the after treatment outlined. Useful chapters are included on nerve deafness and also on deaf mutism. The final chapter contains formulæ and pathological methods. There is a good index.

• "A Practical Handbook of Diseases of the Ear (for Students)," by William Milligan, M.D. and Wyatt Wingrave, M.D.; 1923. London: William Heinemann (Medical Books), Limited; Demy 8vo., pp. 191, with 72 illustrations.

The Medical Journal of Australia

SATURDAY, OCTOBER 31, 1925.

The Next Congress.

THE SECOND SESSION OF THE AUSTRALASIAN MEDICAL CONGRESS (BRITISH MEDICAL ASSOCIATION) to be held at Dunedin, New Zealand, from February 2 to 7, 1927, promises to be an event of the greatest scientific importance.

The Congress will be opened on Wednesday, February 2, by His Excellency Sir Alexander Fergusson, Bart., Governor-General of the Dominion of New Zealand, and the New Zealand Government will be officially represented. On the same day the President, Dr. L. E. Barnett, C.M.G., Emeritus Professor of Surgery in the University of Otago, will deliver his presidential address and the official receptions will be held. The two following days will be devoted to scientific deliberations and after a break over the week-end the Sections will meet again on the Monday and Tuesday. This is a happy arrangement. It will help members of congress to become better acquainted and will promote much valuable discussion of an informal nature. This is difficult to obtain when the scientific meetings follow one another in rapid succession that is calculated frequently to produce mental indigestion.

Professor Barnett is at present visiting several of the Australian States on his way to England and is anxious to meet as many of the Presidents and Vice-Presidents of Sections as possible while *en route*. He gives an inspiring account of the activities of the Executive Committee of which Professor W. P. Gowland is Honorary Secretary. A tentative programme has been prepared and suggestions in regard to subjects for discussion or general methods of controlling the discussions will be welcomed. Professor Barnett has pointed out that in view of the relatively small number of medical practitioners in New Zealand the Executive Committee will look to Australian practitioners for the greater part of the scientific material. A great

deal of original work is being carried out by medical practitioners in Australia. Much of this is known, but some has not yet come to light. The Executive Committee is anxious to obtain particulars of this work so that those with a suitable message may be invited to make either an interim or a complete report. This is a much wiser method of gaining information than is that of asking people to undertake certain research for the specific purpose of reporting to Congress.

The keynote of the Congress is to be public health and matters concerned with the general welfare of the community. The Dominion of New Zealand has taken a prominent part in this branch of medicine and has set an example to many other countries. There can be no doubt that the joint consideration by Commonwealth and Dominion of mutual problems will be of service to both. The medical profession in this quarter of the globe labours under many disadvantages and one of these is the distance which separates the larger centres of learning. Opportunities for interchange of ideas are relatively few. In these circumstances the Dunedin Congress will be extremely valuable to Australian and New Zealand practitioners. All the specialties in medicine will be represented in the several sections and their adherents will find scope both for imparting new facts and for learning from the experience of others. In congresses devoted to a single highly specialized branch of medicine the members work more or less in a groove and approach all problems from the point of view of their specialty. In general congresses, such as the Australasian Medical Congress (British Medical Association), the ideal of team work can be kept well to the fore. With this object combined meetings of sections are held and varying aspects of a question can be discussed by individuals who are accustomed to approach it from widely divergent points of view and with entirely different methods of treatment. For example, the selection of goitre by the Executive Committee as a subject for combined discussion can be warmly commended. Goitre occurs in large areas of New Zealand and Australia and the elucidation of the problem connected with it calls for the aid of physician, surgeon, neurologist, biochemist, pathologist, radiologist and

sometimes of ophthalmologist and laryngologist. In this connexion it is worthy of note that the highly specialized sections will not meet continuously throughout the four days. Their members will be given opportunities of attending the meetings of other sections and of looking at questions from unaccustomed angles. It is apparently the wish of the Executive Committee that the experience of many should be brought out in discussion rather than that the whole time devoted to one subject should be consumed by the recital of the considered opinions of one individual. In regard to this point Professor Barnett was evidently impressed at a meeting held at Sydney by a suggestion of Dr. N. D. Royle that papers should be printed beforehand, circulated if possible among members and taken as read and that discussion should follow a short *résumé* of the contents of the paper by the author. Doubtless this and other suggestions calculated to increase the efficiency and usefulness of Congress will be considered by the Executive Committee. There is, of course, a danger that the subjects chosen for debate may be too numerous to permit adequate discussion of any one of them. The task of the Executive Committee in making a final selection of subjects will be difficult, but they can rely on the sympathetic cooperation and acceptance of their decisions by intending members.

Dunedin is admirably suited to be the site of a medical congress. It has given freely to the world of science and letters. Its new medical school will be completed before February, 1927, and will provide ample accommodation and above all a suitable atmosphere for the discussions. Although the scientific side is the most important, intending members of Congress will find that few places offer greater facilities for enjoyment and sport. The Congress is not far distant. But sixteen short months have to pass before the opening day arrives. Australian practitioners can make their plans well in advance. All medical men need a holiday and change of scene. By going to the Congress in Dunedin they will do something to repay the energy and labour of their New Zealand *confrères* and can help to make the Second Session of Congress not only a successful venture, but a worthy contribution to medical knowledge.

Current Comment.

CASTRATION OF MICE AND THE POTASSIUM CONTENT OF TISSUES AND EPITHELIAL GRAFTS.

REFERENCE has frequently been made in these pages to the physicochemical and biochemical aspect of cancer research and to the undoubted importance of observations along these lines. Apparently isolated facts of today may become part of the finished story of tomorrow and for this reason the facts must be recorded and noted with care.

In our issue of February 7, 1925, we referred to the observations of Rohdenburg and Krehbiel on the relationship of mineral salts to malignant tumours. Observations on somewhat similar lines have recently been made by Dr. M. Loeper, Dr. R. Turpin and Dr. Zizine on the influence of total testicular castration on the potassium content of the tissues and of epithelial grafts in mice.¹ They point out that according to previous observations published by them double castration of mice alters the ultimate development of a graft of mammary epithelioma. The graft takes more rapidly and its development is accelerated. At the same time it easily becomes ulcerated, and although its evolution is accelerated, its volume is always less than a tumour produced in a similar way in a non-castrated animal. If, on the other hand, the cachexia of the animal is pronounced and its death more premature, it is common to see the graft regress after a period of about twenty days. These modifications in vitality were so striking that an effort was made to discover whether alterations in mineral metabolism were produced and whether these alterations had any bearing on the altered evolution of the tumours. In this connexion reference is made to the work of Clowes and Frisbie, who showed that rapidly developing tumours in mice yield a low percentage of calcium and an increased percentage of potassium and that in slowly growing tumours the percentages are reversed. Drs. Loeper, Turpin and Zizine attach considerable importance to the work of Rohdenburg and Krehbiel and refer to their statement that a graft of sarcoma of the rat has more chance of taking in proportion as the ratio of potassium to calcium and sodium is great and that the development is less extensive as the potassium content is raised. Rohdenburg and Krehbiel also hold that the susceptibility of tumours to radiation is inversely proportional to their potassium content. Drs. Loeper, Turpin and Zizine point out that according to all other observers the potassium content of the average animal acts always as an accelerating factor and that the potassium content of the tumour itself appears as a factor of activity and even of malignancy.

They studied the chemical composition of tumours removed before and after death from several groups of mice previously castrated. The

¹ *Bulletin de l'Association Française pour l'Étude du Cancer*, June, 1925.

interval between castration and removal of the tumours was in every instance the same. Control mice were used. In castrated mice the calcium content of tumours was 0.16%, the percentage of potassium was 0.40 and the potassium calcium ratio was 2.4 to 1. In non-castrated mice the percentage of calcium was 0.04, that of potassium was 1.51 and the potassium calcium ratio was 36 to 1. In a second group of non-castrated mice the figures were respectively 0.15, 2.46 and 16.6 to 1. Unfortunately nothing is said in regard to the number of mice in each group. It is claimed that these results show without question that the level of potassium is less in castrated than in control mice and that the ratio of potassium to calcium in the castrated group is much less than that found in the non-castrated group.

The variations of the level of potassium of tumours depend evidently on the soil in which they have developed. Drs. Loeper, Turpin and Zizine refer to the results obtained by several workers in regard to the effect of castration on basal metabolism. The results are somewhat at variance. Zünz found a diminution in basal metabolism of animals after castration and even after ligation of the spermatic cords. Heymans and de Kojuma found that the metabolism of castrated roosters was raised 20% to 30% and that of the castrated rat 28%. Tsubura found that castration lowers the metabolism of a rabbit and that a subsequent testicular graft brings it back practically to a normal level. Observations on human beings are in the opinion of Drs. Loeper, Turpin and Zizine contradictory. They state that no research has been conducted into the calcium or potassium content of either castrated human beings or animals. They have tried to fill in this gap by investigations on mice. They determined the calcium and potassium content of the entire animal. Again they do not state how many animals were subjected to this examination. Some animals were absorbing their grafts and in some the grafts were developing. In the first group the percentage of calcium in castrated animals was 0.94, the potassium level was 0.26 and the potassium calcium ratio was 0.29 to 1. The figures in non-castrated animals of this group were 0.72%, 0.35% and 0.48 to 1. In the group of animals whose grafts were developing, the percentage of calcium in the castrated lot was 0.79, the potassium was 0.27% and the potassium calcium ratio was 0.38 to 1. The figures for the non-castrated animals of this group were respectively 0.61%, 0.26% and 0.428 to 1. It is pointed out that even if the absolute value of potassium and calcium is not modified to any considerable extent, the relative value is altered and the potassium calcium ratio is 5% less among the castrated than in the non-castrated group.

BLANCHING TEST IN SCARLET FEVER.

In 1918 Schultz and Charlton introduced what is known as the blanching test in scarlet fever.

They gave an intracutaneous injection of one cubic centimetre of normal human serum or of serum from a patient convalescent from scarlet fever to a person whose eruption was at its height and found that an anæmic zone appeared from five to eight hours later. The anæmic zone varied in size from that of a five shilling piece to that of the palm of the hand. This reaction does not occur if recent scarlatinal serum is used or after the injection of normal horse serum, diphtheria antitoxin or saline solution. It is not present in measles or in rashes due to mercurial drugs. Neumann and others used the test by injecting the serum from a patient whose rash was ill developed into the skin of one whose rash was undoubtedly due to scarlet fever. When the rash of the latter patient disappeared the rash of the former was not due to scarlet fever, whereas when the rash of the latter was unaffected, the diagnosis of scarlet fever in the former was regarded as established. It was found, however, that the serum of patients suffering from rubella acted in the same way as that of patients with scarlet fever and this naturally diminished the value of the test as used in this way to a considerable extent. As a matter of fact the blanching test as described by Schultz and Charlton has not been used to any large extent. The practical difficulties in regard to the necessity for the performance of the Wassermann test probably had a great deal to do with its non-acceptance. The recent work which has been done in regard to the *Streptococcus hæmolyticus* and scarlet fever has directed attention once more to this test. An immune horse serum was prepared by injecting the animal with this organism and several observers, including Douchez and Sherman, reported that such a serum possessed the power of blanching the rash of scarlet fever.

Dr. S. J. Levin and Dr. J. P. Parsons have recently recorded some observations on this test.¹ They used serum prepared from horses after they had been injected by whole cultures of hæmolytic streptococci obtained from scarlet fever patients. One cubic centimetre of the serum was injected intradermally during the first forty-eight hours of the eruption. As a control the patients were also injected with normal human serum and serum from convalescent patients. In every instance blanching was caused by the antiserum. The blanched areas were from five to ten centimetres in diameter. They were slightly irregular in shape and usually presented radiating lines of blanching, extending into the surrounding rash for five to eight centimetres. In seven instances a two zone reaction appeared, the centre area being red in appearance. The latter was regarded as probably being of the nature of a foreign protein reaction. Drs. Levin and Parsons conclude that the specific antiserum possesses definite antibodies for scarlet fever, but they wisely state that the therapeutic use of this antiserum does not furnish sufficient data on which to warrant a report. They hold that a specific antiserum will probably fill a practical need in the diagnosis of scarlet fever.

¹ American Journal of Diseases of Children, August, 1925.

Abstracts from Current Medical Literature.

THERAPEUTICS.

Rectal Administration of Digitalis.

S. G. ZONDEK (*Klinische Wochenschrift*, July 9, 1925) relates his experiences with twenty patients suffering from heart disease to whom digitalis was administered by the rectum. Many patients owing to digestive troubles cannot stand oral administration, whilst hypodermic injections are frequently painful. He found no contraindications to its use *per rectum* and suggests that in cases of urgency this method can be combined with the intravenous route. The digitalis in doses of 0.075 gramme is made up in suppositories with a fatty base. Given in this way the drug is tolerated much better than when given as an enema. No injury was observed to the rectal mucosa, though there were occasionally slight tenesmus and increased peristalsis.

Calcium Therapy.

A. SCHLOSSMANN (*Klinische Wochenschrift*, June 25, 1925) discusses the best method of administering calcium especially to children. He prefers a preparation of calcium citrate with a chocolate base. Calcium therapy is indicated in the treatment of rickets, chronic eczema, hæmorrhages, asthma and all spasmophilic conditions. It should be given over long periods in tuberculosis especially of the bronchial glands.

Physostigmine in Abdominal Distension.

H. E. MARTIN AND SOMA WEISS (*The Journal of the American Medical Association*, May 9, 1925) recommend physostigmine for the relief of post-operative abdominal distension, but in non-toxic conditions only. They state that insufficient dosage is responsible for the fact that the drug has not been acclaimed for this purpose in the past. The effective dose is three to four milligrammes (one-twentieth to one-sixteenth of a grain) injected intramuscularly. Physostigmine is used in conjunction with the rectal tube. Usually within ten to forty minutes of the intramuscular injection the patient belches heartily or expels flatus. These effects gradually increase and defæcation accompanied by slight colic may occur. Moderate sweating always ensues and the pulse rises in rate from ten to twenty beats per minute. The drug may be repeated at intervals of three to four hours with perfect safety if no definite systemic disturbances are observed.

Treatment of Parkinsonian Rigidity with Stramonium.

E. JUSTER (*La Presse Médicale*, April 15, 1925) announces the successful treatment with stramonium of a

patient suffering from the Parkinson syndrome after an attack of encephalitis. The drug was given in the form of pills made from the powdered leaf, 0.2 gramme being administered at each meal and a total amount of two grammes being given each day. This treatment was continued for a fortnight and produced no untoward symptom save a definite dilatation of the pupils. Juster considers that daturine, the alkaloid of stramonium, may prove, like atropine and hyoscyamine, to exert a favourable influence upon the course of *paralysis agitans*.

Yellow Vision Associated with Digitalis Poisoning.

H. JACKSON AND L. G. ZERFAS (*Boston Medical and Surgical Journal*, May 7, 1925) note the occurrence of yellow vision in a woman with chronic myocarditis who had taken the tincture of digitalis (fifteen mills three times a day) over a period of four years. All objects appeared yellow in colour to the patient and the air seemed filled with yellow snow. Stoppage of the digitalis caused the symptom to disappear. Xanthopsia is a rare result of digitalis therapy; *santonin*, *cannabis indica*, *amyl nitrite* produce it not uncommonly and it occurs in poisoning by *picric acid*.

Treatment of Phosphorus Poisoning.

H. L. DWYER AND F. HELWIG (*The Journal of the American Medical Association*, April 25, 1925) report their experimental investigations on the treatment of phosphorus poisoning. They give details of the history of a child who died after eating a firework containing 7% of the poison. In this case the usual treatment with egg-white, solutions of potassium permanganate and oil of turpentine proved useless. The authors thereupon fed a number of dogs with suspension of similar fireworks in water. The only antidote which proved protective against the phosphorus was *liquor petrolatum*, in doses of fifty cubic centimetres, used in conjunction with lavage. This treatment was invariably effective if instituted one or two hours after the administration of a lethal dose.

Effect of Epinephrin by Oral Administration.

WILLIAM C. MENNINGER (*The Journal of the American Medical Association*, April 11, 1925) has established the fact that adrenalin given orally is capable of producing systemic effects on the circulation in some cases of hyperthyroidism. Cushny, Sollmann and others have always held that the drug produces no evident effect upon the vasomotor system or the circulation generally and that it is quickly destroyed by the gastric and intestinal secretions. Menninger has made a series of fourteen observations upon nine patients. The subjects were all rested in bed for twelve hours prior to the experiments, blood pressure and pulse readings were taken and in most instances determinations of basal metabolism were

made. The results of Menninger's work show that in three instances there were definite reactions and in one a very considerable reaction to the adrenalin. In this latter case the blood pressure rose by one hundred and ten millimetres. In two instances the drug caused vomiting, sweating, an increase in the tremors, epigastric burning and general distress.

Analeptics.

E. S. FAUST (*The Lancet*, June 27, 1925) publishes the results of investigations into the use of pyridine- β -carboxylic acid diethyl amide (P) as an analeptic. Analeptics are reagents acting upon certain regions of the central nervous system and certain peripheral organs, so that their functions are stimulated. Caffeine, theobromine, strychnine and camphor are the best known; adrenalin, pituitary extracts and atropine might also be classed as examples of analeptics, but none of these substances is without many disadvantages. P was selected after many organic compounds had been tried; it is a viscous, soluble liquid, which on injection into animals immediately increases the respiratory rate and causes excitement, followed by convulsions if the dose is increased. Oral administration produces the same effects. The blood pressure is raised, the pulse is slowed and the pulse volume increased. The respiratory volume is increased as well as the rate. Small doses cause the blood vessels to contract and increase peristaltic movements of the rabbit's gut. The main effects are produced by stimulation of the vasomotor and respiratory centres in the medulla and direct stimulation of the heart. P was found to have no cumulative effect. The effective therapeutic dose was far below the toxic dose. This substance, therefore, promises to excel camphor and strychnine in collapse and other conditions in which those drugs are most used. P was used with success in eight patients with heart failure (muscular) and one with bronchopneumonia; 0.5 to two cubic centimetres were administered twice daily for several days with the results of lessened cyanosis and dyspnoea, slowing and increased strength of the pulse and general improvement in the condition of the patient. Favourable results have also been reported following the use of P in patients under the care of surgeons at the University of Heidelberg.

UROLOGY.

Teratoid Tumours of the Testis.

A. L. DEAN, JUNIOR (*Journal of Urology*, February, 1925), considers that at the present time the best way of treating malignant disease of the testis (nearly always teratoid tumours) is by a combination of the high voltage X ray therapy and surgery. With adequate X ray facilities at hand

the radical dissection of the lumbar and pelvic lymphatics seems to be an unnecessary procedure. Prior to the introduction of high voltage X ray therapy a large amount of radium was used as a pack; this was an expensive procedure and the radium was often not obtainable. The primary testicular tumour is treated with X rays of low voltage since conservation of the overlying integument is not an important factor. Two exposures, an anterior and a posterior, are given at an interval of one to three days. In addition two high voltage treatments are directed towards the pelvic and lumbar lymph glands of the same side with an interval of two to four days between them. At the end of three or four weeks the diseased testis is carefully removed without dissection of the retroperitoneal lymphatics. After discharge from hospital the patient is examined once a week. X rays are employed regularly in a search for lung metastases and a weekly record is kept of the body weight. Two months after the first treatment similar irradiations are given over the same areas. The intervals between observations are then lengthened to a month and the rest between treatment to three or four months. The author is not in a position to advise any definite number of treatments. He thinks that his own patients have probably been undertreated, as some men have been apparently normal for several months only to present recurrences during one of their more prolonged rest periods. The commonest type of patient presented to the writer has been the recently castrated individual who has abdominal metastases and is in poor condition. The metastatic tumours are treated with the high voltage X rays. Recurrent tumours in the scrotum or spermatic cord receive low voltage treatments and after a suitable delay to insure encapsulation are removed by dissection. Seven patients with operable tumours have been treated; of these five are living and apparently well one to three years afterwards. Of forty-nine patients first seen with inoperable metastases ten are now free from signs of disease.

A New Pyelographic Medium.

A. RAVICH (*Journal of Urology*, November, 1924) proposes the use of a 20% solution of "Neo-silvol" as an opaque medium for pyelography, ureterography and cystography. This fulfils ideally the conditions that such a medium should be sufficiently opaque, non-toxic, non-irritating and of a proper degree of fluidity. In addition this medium has a highly destructive action on such bacteria as colon bacilli, staphylococci, gonococci and diphtheria bacilli. The medium most recently in common use has been a 15% solution of sodium iodide, but both this and the 25% solution of sodium bromide, another commonly used medium, are in many instances distinctly irritating to the mucous

membrane of the urinary tract. The pain associated with irritation arising early during injection into the renal pelvis may lead to a false estimation of the true capacity of the pelvis. In a series of one hundred and twenty-five pyelo-ureterograms taken by the author with "Neo-silvol" there has not been a single instance in which any untoward chemical, toxic or febrile reaction could be traced to the use of this medium.

Renal Sympathectomy.

L. F. MILLIKEN AND W. G. KARR (*Journal of Urology*, January, 1925), following upon the recent introduction in France by Legueu and Papin of the operation of renal denervation for the relief of nephralgia and certain small non-mechanical forms of hydro-nephrosis, have conducted experiments regarding the effect of such denervation on the renal function. Section of the sympathetic nerves (periarterial sympathectomy) has been practised in recent years with reputed good results in a variety of peripheral conditions associated with sensory or circulatory derangement. The splanchnic nerves going to the kidney are entirely vasomotor in function; the vasoconstrictor action is much stronger than the vasodilator and consequently stimulation of the splanchnic trunk lessens the blood flow through the kidney and therefore lessens the amount of urine. On the other hand section of the splanchnic increases the amount of urine which assumes the characteristics associated with other forms of diuresis. No secretory fibres to the kidney have been discovered. The authors performed both unilateral and bilateral renal denervation in dogs and later on noted the functional state of the kidneys by means of cystoscopy and the injection of indigo-carmin. It is shown that the denervated kidney functions at a higher level than its mate and this increase may persist for several months. Denervation of both kidneys to the extent of cutting away all visible fibres of the renal plexus produces no untoward results and animals so treated live in good health for an indefinite period. Denervation of one kidney disturbs the balance of function of the two organs in such a manner that the function of the one which has been operated upon, is considerably greater than that of either when both are denervated.

Diathermy in Chronic Gonococcal Vesiculitis.

M. E. ROUCAÏROL (*Journal d'Urologie*, December, 1924) advises diathermic treatment of the seminal vesicles when infection of the latter is the cause of a persisting chronic urethritis. The determination of infection of the vesicles is made by rectal palpation or by sperm culture for gonococci. When the more usual methods of treatment fail to disinfect the vesicles, diathermy, applied by means of a rectal or a urethral elec-

trode, often succeeds. The region of the vesicles must be heated up to a temperature of 45° C. and each application should last from twenty to thirty minutes. Usually four to twelve applications at daily intervals are necessary. The rectal is as a rule tolerated much better than the urethral electrode.

Diverticulum of the Bladder.

M. NEGRO AND H. BLANC (*Journal d'Urologie*, September, 1924) discuss vesical diverticulum. They have studied thirteen cases. Diverticulum of the bladder may cause symptoms at as early an age as twenty years, but not usually until after forty. Two of the thirteen patients were women. Diverticula are usually lateral, but are occasionally seen in the *bas-fond* of the bladder. All their large diverticula were single; when multiple they tended to be small. There is no pathognomonic symptomatology except that micturition may be in exceptional cases occur in two stages. The other symptoms are due to superadded complications, usually of infection and take the form of cystitic symptoms, hæmaturia, complete retention or the signs of pyelonephritis. In diagnosis cystoscopy is first used and then fuller information may be gained from cystograms taken obliquely. Palliative treatment never effects a cure. The technique of Marion is the most useful of all the radical methods of resection yet proposed.

Intravenous Injections of Sodium Salicylate as a Test of Renal Function.

A. STRACHSTEIN (*Medical Journal and Record*, July 1, 1925) points out that salt retention to some degree is a constant feature of all varieties of nephritis. In the "medical" varieties there may be sodium chloride retention without discoverable nitrogen retention, but in no instance has the combination of nitrogen retention with full salt excretion been encountered. In the type of nephritis due to salt retention the various dye tests (phthalein, indigo-carmin *et cetera*) may give high or even normal readings. The author has sought for a salt to be given intravenously which will be eliminated rapidly by normal kidneys and can be detected quickly and easily by colour with a reagent, thus fulfilling all practical requirements. For this sodium salicylate is admirably suited. One gramme is dissolved in five cubic centimetres of sterile distilled water and injected. Three minutes later the urine is allowed to drop from a catheter into a test tube containing a few cubic centimetres of a 1% solution of ferric chloride. A delicate violet or purple colour should appear at least within five minutes of the time of injection if the kidneys are excreting the salt in a normal manner. The degree of delay after five minutes corresponds with the degree of inability exhibited by the kidneys to excrete sodium chloride.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on July 30, 1925, Dr. R. B. WADE, the President, in the chair.

Endocrinology.

Dr. RALPH WORRELL read a paper entitled: "Extracts of Endocrine Glands and Their Clinical Application."

Dr. R. L. DAVIES read a paper entitled: "Extracts of Endocrine Glands and Their Clinical Application" (see page 521).

Dr. A. T. EDWARDS on behalf of Dr. G. P. U. PRIOR read a paper entitled: "Endocrines and Mentality" (see page 524).

Dr. R. B. MONSON said that he wished to congratulate the readers of the papers that evening. He thought that Dr. Prior's paper was one of the best to which he had listened for a long time. He had had the good fortune to have been a pupil of Fränkel at Vienna. If Blair Bell's work on the pituitary was excepted, Fränkel had done most of the pioneer work on the endocrine glands. Dr. Monson said he would mention some of Fränkel's conclusions. He had found that the thyroid stimulated the suprarenal glands, but that on the other hand the ovarian secretion retarded suprarenal activity. Thus it was possible to get a high blood pressure and a quick pulse produced by a hyperplasia of the thyroid or by extirpation of the ovaries. Hyperplasia of the pituitary gland might produce too much pituitary secretion which in its turn overstimulated the ovary, producing too much congestion of the uterine mucosa and consequently hæmorrhages. This altered function of the endocrine relation was called by the Germans dysharmonia. Hyperfunction of the ovaries in other words of the *corpus luteum* produced long intervals between the menstrual periods. This was due to the fact that the *corpus luteum* was strong and took some time before it ruptured. In these circumstances the stimulation of the mucosa by the secretion of the *corpus luteum* produced much hypertrophy of the muscles and mucosa. Once the *corpus luteum* ruptured the stimulus to menstruation was liberated and the flow started. Extirpation of the *corpus luteum* by operation would bring on the flow. Rupture of the *corpus luteum* by the administration of half a skin dose of X rays to the ovary would also produce early rupture and this was the explanation of the flooding which not infrequently followed the first application of X rays in the treatment of fibroids and other conditions. On the other hand hypofunction might occur in which early rupture of the *corpus luteum* was occasioned by its fragility. Here the muscle and mucosa had not been sufficiently stimulated and were less thick than normal, so that menstruation might occur every two to three weeks and be profuse. The hyperfunctioning ovary was associated clinically with a late onset of the menstrual period, with a male type of pubic hair, with a poorly developed clitoris and with sexual frigidity.

In view of the position of knowledge in regard to endocrine therapy Dr. Monson thought it was an anomaly that both amenorrhœa and menorrhagia might be cured by the hypodermic administration of pituitary extract. He referred to the history of a female patient, aged seventeen years, who had been under his care. She had previously consulted many gynecologists for the menorrhagia of puberty and her uterus had been curetted by some of them. After three hypodermic injections of pituitary extract she had remained quite cured.

Some interesting work had recently been published by Carl Hartman, of the Department of Zoology of the University of Texas. Hartman said that the first noticeable effect on the elimination of ovarian function in the opossum was the peculiar elongation of the uterus which became flaccid owing to relaxation of the muscle fibres and resorption of lymph from the formerly greatly hypertrophied mucosa. The uterus was pale and yellow in appearance. Dr. Monson could give personal confirmation

of these views as a result of his work on rabbits. He had attempted ovarian transplantation into the uterus and the grafts had failed to survive. He proposed to publish a paper on the subject at a later date.

Dr. Monson quoted some work which he said threw some light on the action of the *corpus luteum* on the uterus itself. He said that two ovarian functions operated in stimulating the growth of the uterus. Before ovulation it was the follicular fluid; after ovulation the *corpus luteum* was responsible. There was, however, another factor formerly not considered, namely the influence of the *liquor folliculi*. Sabotta had shown that this was expelled with the eggs into the oviduct at ovulation. This fluid was doubtless slowly absorbed and in the light of Allen and Doisey's work must be seriously considered in this connexion. It might well be that the follicular fluid was actually after ovulation, as before, the nutritive substance of the ovum postulated by Kohn who held that it was derived from the *corpus luteum*. Embryos died after oophorectomy because of uterine inefficiency. In other words the ovarian hormone acted on the uterus, not directly on the embryos. According to Fränkel the trophic disturbance caused in the uterus by ablation of the *corpora lutea* resulted in faulty implantation of the embryo. Loeb stated that there was no decidual reaction in the absence of a young active *corpus luteum*. In view, however, of Biedl, Peters and Hofstätter's results who had reported implantation and decidual reaction without a *corpus luteum* it would seem desirable to establish further the Loeb theory for normal pregnancy. The direct cause then of the death of the embryo after double oophorectomy was malnutrition due to collapse of the central layer of the uterine mucosa from which the lymph was resorbed. The uterus became flaccid and pale and assumed a peculiar elongated form.

Fränkel said that the war amenorrhœa so prevalent in Austria owing to the deprivation of fats was cured in most instances by the administration of pituitary extract and by stimulation of the ovary with X rays. This again suggested an interesting association of these glands with fat metabolism. Amenorrhœa and impotence were early signs of pituitary tumour. According to Fränkel if the thymus persisted, there occurred a hyperplasia of the sexual organs with sterility, impotence and amenorrhœa. This was called the *status thymo-lymphaticus*. It was associated with an increase in the lymphatic glands, a narrow aorta and lymph follicles at the base of the tongue. Fränkel also said that the pineal gland which was normally obliterated at one or two years of age, had a secondary action as a ductless gland. It had the function of impeding the too rapid development of the internal genitalia. When the gland was destroyed as by a glioma, early menstruation and seminal development resulted. Instances of this had been recorded in individuals of two to three years of age. The Austrians were much ahead of other people in their endocrine work chiefly because of Fränkel and also because of their ability to recognize suitable cases for treatment by endocrine therapy. They obtained better results by the hypodermic administration of glandular products.

Dr. H. F. NORRIS said that the Council of the Branch was to be congratulated on having arranged a combined meeting of the various sections. He discussed the question of Hallion's law which had been referred to by Dr. Davies. Opinions differed concerning the working of this law. Hallion's law was stated as follows: Organic extracts exerted on the same organ an exciting influence which lasted for a longer or shorter time; when this organ was insufficient, it was conceivable that the influence augmented its action and when it was injured it favoured its restoration. Some writers had pointed out that the working of this law was similar to the action of a man's banking account. If a man continued to do business after he had overdrawn his account, he became bankrupt. If on the other hand he obtained a loan, he was able to carry on until his business was reestablished. In the same way the giving of glandular extract permitted the body to carry on with the use of the extraneous substances until the glandular balance had become reestablished.

Dr. R. I. FURBER dealt with the relation of the ovarian hormone to the climacteric and to glycosuria. From the clinical point of view it was very useful to measure the

blood pressure at the climacteric. He was satisfied that the flushing and other symptoms of the menopause could be explained by the raised blood pressure. The administration of ovarian extract led to a considerable fall in the blood pressure. The blood pressure was often very high at the menopause, but this was not as serious as the same rise in pressure due to nephritic disease. He had had excellent results with ovarian hormone given by mouth and spoke enthusiastically of a preparation known as the "Biazymes."

DR. F. S. HANSMAN after congratulating the speakers dealt with the action of pituitary extract. There was a controversy whether the extract was effective when given orally. He was satisfied that this depended on the type of preparation. The experience at Saint Thomas's Hospital had taught them that Armour's pituitary preparation was effective. This was probably due to the fact that this preparation included infundibular substance. The infundibulum apparently played a large part in the production of pituitary hormones. Dr. Hansman referred to Dott's work. Dott had found that if the pituitary body were intact and the infundibulum were destroyed, all the changes characteristic of pituitary deficiency were produced. He held the opinion that patients with ovarian deficiency could be benefited by thyroid therapy. Good results were obtained in the same type of case with the extracts of different glands. The body seemed to exert a selective action when polyglandular therapy was employed. "Hormotone" acted in this way. At Saint Thomas's Hospital they had obtained good results from this pluri-glandular therapy. Both thyroid and pituitary were often given in too large doses. The glandular dysfunction of eunuchoidism was extremely interesting. This condition was best treated by a mixture of thyroid and pituitary gland. Eunuchoids frequently developed tuberculosis. It was therefore very necessary to look for signs of the disease.

DR. D. S. FOY said that he had used "Hormotone" in various deficiency conditions and had found that it was expensive and unsatisfactory. Parke, Davis's ovarian extract was also costly, but he had had one satisfactory result in a patient treated with this preparation. He regarded both the "Biazymes" and Oppenheimer's preparations as very excellent.

DR. EVAN JONES referred to a patient who had suffered from arteriosclerosis with an aortic lesion and who had been subject to epileptic convulsions. The patient's systolic blood pressure had been 230 and the diastolic blood pressure 170 millimetres of mercury. After the administration of ovarian extract in doses of 0.6 gramme (ten grains) for a period of two weeks the systolic and diastolic blood pressures had been respectively 160 and 120 millimetres of mercury. This was the only instance in which he had seen a beneficial effect follow the administration of ovarian extract.

DR. OLIVER LATHAM said that he could confirm Dr. Hansman's remarks concerning pituitary extract. He referred to a case which the late Professor J. I. Hunter, Dr. H. H. Nowland and he had published (see THE MEDICAL JOURNAL OF AUSTRALIA, August 23, 1924, page 194). Armstrong had described three quite similar cases of supra-pituitary tumour associated with Fröhlich's syndrome in all of which the pituitary was intact. The patients had been in Gordon Holmes's clinic. In the case reported by him, the provisional diagnosis of pituitary insufficiency had been made and this had been attributed to an intracranial tumour. At the *post mortem* examination they had found that the pituitary was quite normal and that a tumour was situated above the pituitary infiltrating and destroying the hypophyseal stem and suprapituitary nuclei. This experience demonstrated that it was extremely difficult to determine the function of glandular structures and the way in which the hormone was assimilated.

DR. R. B. WADE said that the members were greatly indebted to the readers of the papers and to those who had taken part in the discussion. They all felt that the work on endocrine glands was of the utmost importance. It had been recognized that scientific research would help to elucidate very many problems. Some of them had expected that this research would come to an end almost suddenly just as in the early days after the discovery of

antitoxin it had been anticipated that there would be an end to all infection. Unfortunately, these anticipations had not been realized. It had been found that the excellent results obtained with thyroid extract had not been reached with other glands. The fact that there were innumerable gland preparations on the market was evidence that there was still much to be learned. He did not know whether these preparations were standardized. It appeared to him that they were still groping in the dark without doing much good.

DR. R. L. DAVIES in reply thanked the members for taking part in the discussion which he had found very instructive. He referred to the experience in Austria during and after the war when the people as a whole had lost fat. Dr. Monson had stated that the frequency of amenorrhœa under these circumstances was directly associated with the loss of fat.

Dr. Davies felt that it was incorrect to ascribe as being solely due to the effects of starvation the amenorrhœa in a people whose nervous systems were undergoing such a severe strain, whether from worry of the danger to their husbands or sons or from the worry of not knowing where their next meal was to come from or from actual starvation.

He had been very interested to hear a confirmation of the doctrine that disturbance of the sexual appetite and dry skin were manifestations of a disturbance of hormonal balance. He regretted that Dr. Norrie had put forward an unusual interpretation of Hallion's law.

DR. EDWARDS in his reply referred to the trade preparations. They had had success with intramuscular injections of the "Biazymes." These were glycerine extracts of the glands. They had used orchitic and ovarian extracts with good results. In dealing with the efficacy of extract of ovary in the high blood pressure associated with chronic Bright's disease, he referred to a woman, aged thirty-two years, who had suffered from this condition. She had had scarlet fever at the age of eighteen and nephritis had supervened. After daily doses of one cubic centimetre of "Biazyme" ovarian extract the systolic blood pressure had manifested a maximum drop of twenty millimetres of mercury. In reply to Dr. Hansman he said that small doses of thyroid were usually sufficient. The gland could be pushed until the patient's temperature became 37.8° C. (100° F.) and the pulse rate 120 in the minute.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been elected members of the Victorian Branch of the British Medical Association:

- Levy, Laura, M.B., B.S., 1925 (Univ. Melbourne), St. Kilda.
- Albiston, Leslie Howard, M.B., B.S., 1924 (Univ. Melbourne), Ringwood.
- Sicree, Reginald, M.B., B.S., 1925 (Univ. Melbourne), North Fitzroy.
- Haywood, Arthur Robert, M.B., B.S., 1925 (Univ. Melbourne), Melbourne.
- Richardson, Charles Edward, M.B., B.S., 1925 (Univ. Melbourne), North Preston.
- Harbison, Noel Sinclair, M.B., B.S., 1925 (Univ. Melbourne), East St. Kilda.
- Baker, Bernard Allen, M.B., B.S., 1925 (Univ. Melbourne), Camberwell.
- Mainland, Stuart Lindsay, M.B., B.S., 1925 (Univ. Melbourne), Toorak.
- Higgins, Joseph Vincent, M.B., B.S., 1925 (Univ. Melbourne), West Melbourne.
- Larwill, James Alfred M.B., B.S., 1925 (Univ. Melbourne), Melbourne Hospital.

THE undermentioned have been elected members of the Queensland Branch of the British Medical Association:

- Connor, William Victor, M.B., Ch.M., 1924 (Univ. Sydney), Brisbane.
- Jobbins, Leslie Thomas, M.B., Ch.M., 1924 (Univ. Sydney), Pomona.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A MEETING OF THE SENATE OF THE UNIVERSITY OF SYDNEY was held on October 12, 1925. The following degrees were conferred *in absentia*: Ralph Edmonds Douglas, M.B.; Ashton Ewan Gregg, M.B.; James Joseph McIntosh, M.B.; George Alexander Chambers, M.B., Ch.M.; William Lewis Fothergill, M.B., Ch.M.; Arthur Fitzgerald James, M.B., Ch.M.; Horace William Johnson, M.B., Ch.M.; Michael Leonard Devaney McKeon, M.B., Ch.M.; Harold Horne Power, M.B., Ch.M.; Leslie Halberstater, Ch.M.; Arthur Wilmot Raymond, Ch.M.; Henry Lyon Johnston, Ch.M.

The following appointments were made:

Dr. Sydney Dodd, F.R.C.V.S., D.V.Sc., as honorary lecturer and examiner for the Diploma in Public Health in the subject of diseases of animals transmissible to man.

Dr. M. B. Fraser as honorary demonstrator in anatomy.

Mr. W. H. Love, B.Sc., as demonstrator in physics.

The following examiners were appointed:

Doctors of Medicine Examination: Professor Windeyer, Dr. S. H. McCulloch, Dr. T. G. Wilson.

Doctors of Science Examination: Professor Fawsitt, Professor Kenner, Professor Rennie.

It was decided to cooperate with other Australian Universities in the matter of securing representation of the Universities of the Dominions of the British Empire on the British General Council of Medical Education and Registration in London.

The Caird Scholarship in chemistry which has hitherto been allotted at the end of the second year in the Faculty of Science, is now to be awarded to the student of "Chemistry III." or of "Organic Chemistry, Pure and Applied," who in the opinion of the professors concerned attains the greatest distinction. The scholar shall be required to continue the study of chemistry in his fourth year.

The following conditions for the award of the Walter Burfitt Scholarship were approved:

1. That the benefaction be called "The Walter Burfitt Scholarship."

2. That until otherwise determined the amount of the scholarship be £50 *per annum*.

3. That the scholarship be awarded annually on the results of the third year examination in the Faculty of Science to the student who, being eligible in the opinion of the faculty, shows the greatest proficiency in physics or chemistry. The scholar shall be required to pursue the study of physics or chemistry in the fourth year (honours) course: Provided (a) that if the examiners deem it necessary, the results of the examination in mathematics may be taken also into account for the award which shall in that case still be for following up physics or chemistry in the fourth year, (b) that if no one is appointed to the scholarship in any year, the interest shall accrue to the capital, (c) that this scholarship may be held with another if the total amount of the scholarships does not exceed £100.

The following proposals as recommended by the Professorial Board in regard to graduation and matriculation ceremonies were adopted:

1. That there be two annual graduation ceremonies and that for the present the ceremonies be held in September and April; later when the medical examinations are held at the end of the year the ceremonies be held in December and April and temporarily that provision be made for a special meeting of the Senate in December for the purpose of conferring degrees.

2. That the graduation ceremony in April be held not later than during the week following Easter week.

3. That the ceremony of Commemoration of Benefactors be held on the evening of the first Monday in Michaelmas term and that any entertainment arranged by the Senate in honour of the graduates be held contemporaneously.

4. (a) That a ceremony of admission to matriculation be held at the earliest possible date after the first fortnight of the lecturing Lent term and that all matriculants be required to attend.

(b) That the ceremony of matriculation be held in the afternoon or evening and that friends and relatives of the matriculants be invited to attend.

A Munificent Bequest.

The late Colonel Oswald Watt who died in May, 1921, left an estate valued for probate purposes of over £175,000 and appointed the Perpetual Trustee Company as executors and trustees.

It will be remembered that the deceased soldier rendered most distinguished service in France throughout the war and that his ashes were buried with full military and naval honours in St. Jude's Churchyard, Randwick. His military decorations included the awards of the *Croix de Guerre*, *Légion d'Honneur* and the Order of the British Empire.

After leaving many bequests and numerous legacies to friends and institutions, the testator bequeathed the residue of his property upon trust to the Senate of the University of Sydney "for such uses for the benefit of the institution as the Senate in its absolute discretion should determine."

Owing to certain legal difficulties it was only in July, 1924, that the trustees were in a position to give effect to the benefactor's directions and even now the value of the gift to the University cannot be accurately stated. But the trustees have now informed the University that the estate has to a great extent been realized and that after the further realization of some further assets and the death of certain annuitants, a sum approximating to £109,500 (of which sum £46,000 has already been paid over) will ultimately be received by the University.

This munificent bequest, the utilization of which has wisely been left to the discretion of the Senate without any hampering restrictions or conditions, comes most opportunely, as the interest will diminish the unavoidable deficit for the year due to the increased claims on the University and the consequently increased expenditure which greatly exceeds the increase in its resources. The gratitude earned by the benefactor is enhanced by the fact that he was not himself a University man and made his donation not because of any personal memories or associations, but solely from disinterested appreciation of the great work the University is doing and the greater work it would do if it had the means.

The Australasian Medical Publishing Company Limited.

THE MEDICAL DIRECTORY.

THE Directors of The Australasian Medical Publishing Company, Limited, have had under consideration the publication of a medical directory and handbook. It is proposed to publish the medical directory early in 1926. For this purpose forms have been addressed to every medical practitioner registered in Australia and New Zealand. Medical practitioners have been asked to fill in the details set out in the form and to return the forms to The Printing House, Seamer Street, Glebe, New South Wales, with the utmost expedition. A very large number of practitioners have complied with this request. Those who have not yet done so, are earnestly invited to complete the entries and return the forms as soon as possible. Further copies of the form will be sent to registered medical practitioners on request. We would call attention to the importance of complete data, for the utility of the medical directory will depend on the accuracy and completeness of the information contained therein.

CASE CARDS FOR PRACTITIONERS.

The attention of members is drawn to an advertisement of case cards for use by physicians, surgeons and obstetricians printed on the medical directory forms. These cards have been devised in as simple a style as is consistent with the requirements of medical practitioners.

Other cards can be printed by the Australasian Medical Publishing Company, Limited, to suit the needs of practitioners. Orders sent for case cards will receive prompt attention.

The Company also undertakes the printing of doctors' stationery at moderate cost. Members of the Branches of the British Medical Association in Australia should support the Company, which is a professional organization managed by a directorate of members elected by each Branch of the Association.

Naval and Military.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Numbers 64, 71 and 74 of August 20, September 3 and 10, 1925.

AUSTRALIAN MILITARY FORCES.

Second Military District.

Australian Army Medical Corps.

To be Lieutenant-Colonel, Supernumerary to the Establishment of Lieutenant-Colonels, with Pay and Allowances of Major.—Major (Honorary Lieutenant-Colonel) C. W. Thompson, D.S.O., M.C., 1st July, 1925.

To be Captain (provisionally)—Thomas Hamilton, 12th August, 1925.

Australian Army Medical Corps Reserve.

To be Majors—Honorary Majors C. Read, V. Benjafield and E. M. Humphery, and Honorary Captains G. B. Lowe and V. M. Coppleson, 1st August, 1925.

To be Captains—Honorary Captains P. S. Parkinson, R. A. R. Green, C. Retallack, Q. Ercole, G. B. Lindeman, F. M. Farrar, J. W. Hart, T. S. Douglas, S. J. H. Moreau, R. M. Thomson, E. S. Smalpage, E. L. Fitzgerald, E. L. Morgan, W. R. Page and C. H. Clatworthy, 1st August, 1925.

Captain A. E. D. Clark is transferred from the Australian Army Medical Corps Reserve, 5th Military District, 10th August, 1925.

Honorary Captain N. Dowling is retired under the provisions of Australian Military Regulation 152 (1), 8th August, 1925.

Third Military District.

Australian Army Medical Corps.

The provisional rank of Captain G. Simpson is confirmed; Captain G. Simpson is seconded whilst attending a post-graduate course in England, 18th July, 1925.

Captain A. N. Jacobs, M.M., is transferred (provisionally) from the Melbourne University Rifles, 4th Division, with regimental seniority next after Captain (provisionally) W. L. Armstrong, 1st July, 1925.

Australian Army Medical Corps Reserve.

Honorary Captain C. S. Sutton is retired under the provisions of Australian Military Regulation 152 (1), 7th August, 1925.

Fourth Military District.

Australian Army Medical Corps.

Captain B. F. Moore is transferred to the Australian Army Medical Corps Reserve, 1st August, 1925.

Australian Army Medical Corps Reserve.

To be Captain—Honorary Captain D. T. Keyes, 1st August, 1925.

Fifth Military District.

Australian Army Medical Corps Reserve.

Honorary Captains H. M. Benson and W. J. Langley are retired, under the provisions of Australian Military Regulation 152 (1), 19th July, 1925, and 7th July, 1925, respectively.

Captain A. E. D. Clark is transferred to the Australian Army Medical Corps Reserve, 2nd Military District, 10th August, 1925.

Major H. H. Montgomery and Captain N. N. Davis are placed upon the Retired List, with permission to retain their ranks and wear the prescribed uniform, 1st August, 1925.

Honorary Captain S. J. Cantor is placed upon the Retired List, with the rank of Captain, and with permission to wear the prescribed uniform, 1st August, 1925.

Honorary Captains C. W. T. Woods and V. H. Gordon are retired under the provisions of Australian Military Regulation 159 (2), 1st August, 1925.

Captain F. M. House is placed upon the Retired List with permission to retain his rank and wear the prescribed uniform, 16th July, 1925.

Correspondence.

PROFESSIONAL SECRECY AND THE VENEREAL DISEASES ACT.

SIR: On account of some recent legal actions in which medical practitioners have been called on to give evidence concerning venereal diseases, I would like to quote a portion of the *Venereal Diseases Act*, 1918.

19. (1) Any matter to be heard by a magistrate under this Act shall be heard and decided in Chambers and in private and no person other than the magistrate, the party concerned, the commissioner and such officers, witnesses or persons as the magistrate may require or at the request of the party concerned may permit to be present shall have access to or be permitted to be present in any room where the matter is being heard.

(2) Every person who acts or assists in the administration of this Act and every person present in any room where any matter under this Act is being heard, shall preserve and aid in preserving secrecy with regard to all matters and things which come to his knowledge while so acting or assisting or present and shall not communicate any such matter or thing to any other person, except in the performance of his duties under this Act or in answer to some question which he is legally bound to answer.

I take it that an intention of the Act was to insure privacy of proceedings. Where medical practitioners have demurred at giving evidence regarding their venereal patients the judge has ruled that they must give evidence and so they have done so in open court. But is that ruling correct? I doubt it.

Nothing can remain secret when spoken in open court and published in newspapers and yet the Act distinctly lays down that everyone "shall preserve and aid in preserving secrecy." That governs the actions of anyone "in the performance of his duties under this Act or in answer to some question which he is legally bound to answer."

He may be legally bound to answer questions, but in answering must see that secrecy is preserved. That is why I maintain that the ruling that a medical practitioner must give evidence on venereal disease patients in open court is wrong. Secrecy is not preserved nor does anyone not even the judge aid in preserving it.

The next question is: Are they all liable to punishment under the Act?

Yours, etc.,

J. COOPER BOOTH.

171, Macquarie Street, Sydney.
October 15, 1925.

CONCEPTION WITH INTACT HYMEN.

SIR: I am reporting the following case of conception with intact hymen for the following reasons: Firstly, to inquire whether the condition is as uncommon as it is supposed to be (Budin, quoted by Metchnikoff, "The Nature of Man," page 86, has recorded the existence of the hymen in 17% of primiparous women, but I do not think it is so common out here) and secondly for the conditions under which it was discovered.

On May 10, 1924, I was asked by the husband of the patient to see his wife, *etatis* twenty-eight, to whom he had been married some eight weeks, on account of her nervousness and pain when he attempted coitus. On examination she was a very neurotic young woman and it was impossible even to attempt to examine her without an anæsthetic. This was done the next day and the patient's hymen was intact. This was ruptured and bimanual examination revealed a uterus about the size of a seven weeks' pregnancy.

On questioning the patient later I found that she had not menstruated since being married and on December 17, 1924, I confined her of a full time living child.

The two interesting features of this case are:

1. Conception occurring in a case of *virgo intacta*.
2. Conception following apparently unsatisfactory coitus according to the husband's statement. This is, of course, a fairly common occurrence.

Yours, etc.,

JACOB JONA, M.D., B.S., B.Sc.

124, Glenferrie Road,
Hawthorne, Victoria.
(Undated.)

RADIUM AND EPITHELIOMA OF THE LIP.

SIR: In recent articles published in the journal by radiologists the treatment of early epithelioma of the lip by radium has been advocated. If this teaching is accepted, I fear that many patients will be lulled into a false sense of security and present themselves for operation at a later stage with well marked glandular involvement.

Yours, etc.,

ARCHIE ASPINALL.

Macquarie Street, Sydney,
October 20, 1925.

DERMATITIS CAUSED BY QUEENSLAND MAPLE.

SIR: The interesting communication by Professor Burton Cleland in your last issue prompts me to record a case of acute dermatitis caused by working with the wood of the Queensland maple (*Flindersia chatawaiana* Bail.). This tree has generally been included in the natural order *Meliaceæ*, but some authorities refer the genus to the order *Rutaceæ*. The patient is a cabinet maker, thirty-five years of age, and has been more or less exposed to this wood since he was fourteen years old. For the past six months he has been working practically continuously with it. None of his fellowworkers exhibited dermatitis from handling it. Others were considerably affected by red wood or Californian pine (*Sequoia sempervirens*), which did not injure this patient. In some workers the Queensland maple dust caused coughing and sneezing, from which this patient was exempt. The dust is fine and gives out no odour. The first thing noticed by the patient was an irritation on the back of the hand and between the fingers some weeks ago. Smarting supervened, but no acute pain. Sweating aggravated the condition and was followed by a feeling of "pins and needles." The palm of the hand and the palmar surfaces of the fingers being thicker escaped, but the disorder spread up both surfaces of the forearm to where the shirt sleeve was tucked up at the elbow. Other

exposed parts were later affected, such as the back (not the front) of the neck, the lips and the cheeks. The eyelids escaped and there was no conjunctivitis. "Weeping" occurred in the lesions and a condition resembling acute exfoliative dermatitis followed. The epidermis desquamated in small branny scales and larger patches, particularly on the dorsal and lateral aspects of the fingers and hand, also about the wrist and nape. A somewhat red and raw surface was left. Under treatment by Dr. Lindeman and others by X rays and other methods the condition improved, but, as the patient continued at his work, recurrences took place and work was abandoned a week ago.

Yours, etc.,

JOHN MACPHERSON.

"Wyoming,"

175, Macquarie Street, Sydney,
October 21, 1925.

ANTENATAL SUPERVISION.

SIR: There is unanimity of opinion that only by antenatal supervision will it be possible to cope with the problems of the reduction of maternal and of infantile mortality in the first week of life.

In Australia we should take advantage of the wonderful opportunity which offers from the granting of the baby bonus. If the British Medical Association would suggest that the Federal Government should limit the payment of the maternity bonus to those prospective mothers who apply, say, within three months of parturition, to accredited organized maternity and infant welfare centres, subsidized by the Federal Government and established by municipalities directly controlled by the State Health Department, it would be possible by these means to carry out measures for the supervision of women previous to childbirth.

In the city of Sandringham (20,000 population), by voluntary arrangement amongst the medical practitioners, I, in my official capacity, have arranged for all prospective mothers to be visited by a trained antenatal nurse and already we see the factor of the wage earning capacity of the householder is important.

In this seaside resort it is found that in the houses of the permanent residents the infantile mortality is 40 per 1,000, whereas among the floating population including some out of work and unemployed and those who are ignorant and uneducated in the principles of hygiene, it is as high as 65, this making the average 54.5 per thousand, whereas there is no reason in a residential suburb why it should not be 40 per thousand as in New Zealand.

Yours, etc.,

T. GARNET LEARY, M.D. (Edin.), F.R.C.P.,
October 6, 1925. M.O.H., Sandringham.

Post-Graduate Work.

ANNUAL COURSE IN MELBOURNE.

THE MELBOURNE PERMANENT COMMITTEE FOR POST-GRADUATE WORK has forwarded to us the syllabus of the post-graduate course to be held from November 9 to November 20, 1925. Members proposing to attend the course should intimate the fact to the Joint Honorary Secretaries, Dr. J. W. Dunbar Hooper and Dr. Harold R. Dew, 12, Collins Street, Melbourne, on or before October 31, 1925. The fee is three guineas. This sum should be forwarded at the time of entry. During the fortnight of the course lists of the operations to be performed at the five named public hospitals will be posted each day. It is hoped that the exact subjects of demonstration will be made known before the commencement of the course. The central office will be situated in the Walter and Eliza Hall Institute for Research in Pathology and Medicine and will be open each morning.

The following are the details of the lectures and demonstrations.

Monday, November 9, 1925.

- 9.30 a.m.—Registration at the Central Office, Walter and Eliza Hall Institute, Melbourne Hospital.
 11.15 a.m.—MR. ALAN NEWTON: "Cholangitis," at the Melbourne Hospital.
 DR. K. HILLER: "Gastric and Duodenal Disease," at the Melbourne Hospital.
 2.15 p.m.—Demonstrations of Staining Methods at the Melbourne Hospital.
 PROFESSOR P. MACCALLUM:
 3.30 p.m.—Pathological Demonstrations at the Melbourne Hospital.

Tuesday, November 10, 1925.

- 9.30 a.m.—MR. H. B. DEVINE: "Early Diagnosis of Cancer of the Stomach," at the Saint Vincent's Hospital.
 DR. J. GRIEVE: "Management and Sequelæ of Poliomyelitis and Encephalitis," at the Saint Vincent's Hospital.
 11.15 a.m.—DR. L. S. LATHAM: Demonstrations in the Medical Wards of the Saint Vincent's Hospital.
 DR. J. NEWMAN MORRIS: "Tumour of the Breast," at the Saint Vincent's Hospital.
 2.15 p.m.—DR. R. ANDERSON: Demonstrations of Ophthalmic Conditions at the Saint Vincent's Hospital.
 MR. B. QUICK: Demonstration on Cystoscopy at the Saint Vincent's Hospital.
 DR. S. S. ARGYLE: Demonstration on X Ray Reading at the Saint Vincent's Hospital.

Wednesday, November 11, 1925.

- 9.30 a.m.—DR. J. H. NATTRASS: "Uterine Hæmorrhage: Diagnosis and Treatment," at the Women's Hospital.
 11.15 a.m.—DR. A. M. WILSON: "Interference during Pregnancy and Labour," at the Women's Hospital.
 2.15 p.m.—DR. C. H. KELLAWAY: "Insulin: Its Uses and Abuse," at the Melbourne Hospital.

Thursday, November 12, 1925.

- 9.30 a.m.—MR. D. MURRAY MORTON: Demonstration in the Surgical Wards of the Saint Vincent's Hospital.
 DR. A. E. ROWDEN WHITE: Demonstration in the Medical Wards of the Saint Vincent's Hospital.
 11.15 a.m.—DR. A. N. MCARTHUR: "Perineal Repair," at the Saint Vincent's Hospital.
 MR. C. GORDON SHAW: Demonstration in the Surgical Wards of the Saint Vincent's Hospital.
 2.15 p.m.—DR. J. T. TAIT: "Cystoscopy," at the Melbourne Hospital.
 DR. FRANK ANDREW: "Diagnosis of Ear, Nose and Throat Diseases," at the Melbourne Hospital.
 DR. H. F. PRAAGST: Demonstration of Skiagrams at the Melbourne Hospital.

Friday, November 13, 1925.

- 9.30 a.m.—DR. S. V. SEWELL: "Complications in the Treatment of Pulmonary Tuberculosis," at the Melbourne Hospital.
 MR. W. A. HAYLES: "Ununited Fracture and Common Orthopædic Affections," at the Melbourne Hospital.
 11.15 a.m.—MR. V. HURLEY: Demonstration in the Septic Wards of the Melbourne Hospital.
 DR. D. THOMAS: "Hypertension," at the Melbourne Hospital.
 2.15 p.m.—DR. H. D. STEPHENS: "Common Surgical Conditions," at the Children's Hospital.
 3.30 p.m.—DR. REGINALD WEBSTER: Pathological Demonstrations at the Children's Hospital.

Saturday, November 14, 1925.

- 9.30 a.m.—MR. H. R. DEW: "Carcinomata," at the Melbourne Hospital.
 DR. L. E. HURLEY: "Visceral Syphilis," at the Melbourne Hospital.
 11.15 a.m.—DR. R. P. MCMEEKIN: Diagnosis and Treatment of Epileptic Seizures," at the Melbourne Hospital.
 MR. C. LITTLEJOHN: "Bone Setters and Bone Setting," at the Melbourne Hospital.

Monday, November 16, 1925.

- 9.30 a.m.—MR. A. J. TRINCA: "Minor Rectal Surgery," at the Alfred Hospital.
 DR. W. S. NEWTON: Demonstration in the Medical Wards of the Alfred Hospital.
 11.15 a.m.—MR. H. C. TRUMBLE: "Early Diagnosis and Treatment of Spinal Lesions," at the Alfred Hospital.
 DR. J. F. MACKEDDIE: "Neurology in General Practice," at the Alfred Hospital.
 2.15 p.m.—DR. S. FERGUSON: "Diet and Diarrhœa in Childhood," at the Children's Hospital.
 3.30 p.m.—DR. L. HOOD: Demonstration in the Wards of the Children's Hospital.
 8.0 p.m.—PROFESSOR R. J. A. BERRY: "Applied Anatomy," at the Anatomy School, University of Melbourne.

Tuesday, November 17, 1925.

- 9.30 a.m.—MR. F. H. LANGLANDS: Demonstration in the Surgical Wards of the Melbourne Hospital.
 DR. S. COWEN: "Diseases of the Thyreoid," at the Melbourne Hospital.
 11.15 a.m.—MR. T. E. L. LAMBERT: Demonstration in the Surgical Wards of the Melbourne Hospital.
 DR. F. B. LAWTON: Demonstration in the Medical Wards of the Melbourne Hospital.
 2.15 p.m.—DR. R. R. WETTENHALL: Demonstrations of Dermatological Affections in the Melbourne Hospital.
 Conference of the members of the Victorian Branch of the British Medical Association.

Wednesday, November 18, 1925.

- 9.30 a.m.—DR. A. E. ROWDEN WHITE: "Puerperal Sepsis," at the Women's Hospital.
 11.15 a.m.—DR. HUBERT JACOBS: "Antenatal Care," at the Women's Hospital.
 2.15 p.m.—DR. A. J. W. PHILPOTT and DR. W. DE WITT HENTY: "Examination on Methods of Persons with Psychoses," at the Acute Mental Hospital, Royal Park.
 Conference of the members of the Victorian Branch of the British Medical Association.
 8.0 p.m.—DR. G. A. COOK: Demonstration at the Venereal Diseases Department of the Alfred Hospital.

Thursday, November 19, 1925.

- 9.30 a.m.—DR. H. TURNBULL: "Aortic Disease," at the Melbourne Hospital.
 MR. B. KILVINGTON: "Urinary Tuberculosis," at the Melbourne Hospital.
 11.15 a.m.—DR. B. ZWAB: "Urinary Affections with Special Reference to Renal Efficiency," at the Melbourne Hospital.
 DR. W. JOHNSTON: "Investigation of Patients with Arthritis," at the Melbourne Hospital.
 2.15 p.m.—DR. F. V. SCHOLES: Demonstration of Patients with Zymotic Diseases at the Infectious Diseases Hospital, Fairfield.
 PROFESSOR P. MACCALLUM: Demonstrations in the Post Mortem Room of the Melbourne Hospital.
 8.0 p.m.—Clinical Meeting of the Victorian Branch of the British Medical Association, at the Eye and Ear Hospital.

Friday, November 20, 1925.

- 9.30 a.m.—MR. B. QUICK: "Management of Retention of Urine," at the Alfred Hospital.
 DR. M. D. SILBERBERG: "Functional Diseases of the Heart," at the Alfred Hospital.
 11.15 a.m.—DR. FAY MACLURE: "Joints," at the Alfred Hospital.
 DR. J. R. BELL: "Investigation of Digestive Disorders with Treatment," at the Alfred Hospital.
 2.15 p.m.—DR. R. M. DOWNES: "Acute Surgical Conditions in the Right Lower Section of the Abdomen," at the Children's Hospital.
 3.30 p.m.—DR. R. L. FORSYTH: "Treatment of Infantile Diarrhœa," at the Children's Hospital.

THE JOHN IRVINE HUNTER MEMORIAL FUND.

As we were going to press we received from the Honorary Secretaries of the John Irvine Hunter Memorial Fund the first list of subscriptions to the fund. Unfortunately the space at our disposal will not allow the publication of the list in this issue. The total amounts to £1,211 16s. It is hoped that the response to the appeal will be large and spontaneous. Subscriptions may be sent to Acting Professor F. A. Maguire and Associate Professor A. N. Burkitt, the Honorary Secretaries of the Fund, at the Medical School, The University of Sydney.

Books Received.

A PRACTICE OF GYNÆCOLOGY, by Henry Jellett, M.D. (Dublin University), F.R.C.P.I.; Fifth Edition; 1925. London: J. & A. Churchill; Sydney: Angus & Robertson Limited. Royal 8vo., pp. 756, with illustrations. Price: 30s. net.

A SYNOPSIS OF MEDICINE, by Henry Letheby Tidy, M.A., M.D., B.Ch. (Oxon), F.R.C.P. (London); Fourth Edition, Revised and Enlarged. 1925. Bristol: John Wright & Sons Limited. Crown 8vo., pp. 1000. Price: 21s. net.

ELEMENTS OF SURFACE ANATOMY FOR STUDENTS OF MEDICINE, by I. MacLaren Thompson, B.Sc., M.B., Ch.B. (Edinburgh); 1925. Edinburgh: E. & S. Livingstone. Crown 8vo., pp. 172. Price: 5s. 6d. net.

FEEDING AND THE NUTRITIONAL DISORDERS IN INFANCY AND CHILDHOOD, by Julius H. Hess, M.D.; Fourth Revised and Enlarged Edition; 1925. Philadelphia: F. A. Davis Company. Demy 8vo., pp. 556. Price: \$4.50 net.

HANDBOOK OF PATHOLOGY, by C. Y. Wang, M.D. (Edinburgh), B.Sc. (Victoria), F.R.C.P. (Edinburgh); 1925. London: John Bale, Sons & Danielsson, Limited. Demy 8vo., pp. 513, with illustrations. Price: 21s. net.

MALIGNANT DISEASE OF THE TESTICLE: ITS PATHOLOGY, DIAGNOSIS AND TREATMENT, by Harold R. Dew, M.B., B.S. (Melbourne), F.R.C.S. (England), F.A.C.S.; 1925. London: H. K. Lewis & Company Limited. Royal 8vo., pp. 168 with illustrations. Price: 21s. net.

MODERN MEDICINE, ITS THEORY AND PRACTICE, edited by Sir William Osler, Bart., M.D., F.R.S., Re-edited by Thomas McCrae, M.D., Assisted by Elmer H. Funk, M.D.; Volume I.: Bacterial Diseases, Non-Bacterial Fungus Infections, The Mycoses. 1925. Philadelphia: Lea & Febiger; Sydney: Angus & Robertson Limited. Royal 8vo., pp. 877, with illustrations. Price: 42s. net.

SOCIAL PATHOLOGY, issued by the United States Public Health Service, Washington, Vol. I., No. 7.

THE NEWER KNOWLEDGE OF NUTRITION: THE USE OF FOODS FOR THE PRESERVATION OF VITALITY AND HEALTH, by E. V. McCollum, Ph.D., Sc.D. and Nina Simmonds, Sc.D. (Hygiene); Third Edition, Entirely Rewritten; 1925. New York: The Macmillan Company; Sydney: Angus & Robertson Limited. Royal 8vo., pp. 675. Price: 21s. net.

TREATMENT OF KIDNEY DISEASES AND HIGH BLOOD PRESSURE, by Frederick M. Allen, M.D.; Part I.; 1925. New Jersey: The Physiatrie Institute. Post 8vo., pp. 212.

Medical Appointments.

THE undermentioned appointments have been made at the Adelaide Hospital, Adelaide: Dr. John Corbin (B.M.A.) as Honorary Surgeon, Dr. Leonard Charles Edward Lindon (B.M.A.) as Honorary Assistant Surgeon, Dr. Henry Kenneth Fry (B.M.A.) as Honorary Assistant Physician and Dr. Richard Longford Thorold Grant (B.M.A.) as Honorary Assistant Pathologist.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xviii.

WINTON HOSPITAL, QUEENSLAND: Medical Officer.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

| BRANCH. | APPOINTMENTS. |
|---|--|
| NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney. | Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies' People's Prudential Benefit Society. Phoenix Mutual Provident Society. |
| VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne. | All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. |
| QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane. | Brisbane United Friendly Society Institute. Stannary Hills Hospital. |
| SOUTH AUSTRALIAN: Honorary Secretary, 12, North Terrace, Adelaide. | Contract Practice Appointments at Renmark and Murat Bay. Contract Practice Appointments in South Australia. |
| WESTERN AUSTRALIAN: Honorary Secretary, Saint George's Terrace, Perth. | All Contract Practice Appointments in Western Australia. |
| NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington. | Friendly Society Lodges, Wellington, New Zealand. |

Diary for the Month.

- Nov. 3.—Tasmanian Branch, B.M.A.: Council.
Nov. 6.—Queensland Branch, B.M.A.: Branch.
Nov. 10.—Tasmanian Branch, B.M.A.: Branch.
Nov. 10.—New South Wales Branch, B.M.A.: Ethics Committee.
Nov. 11.—Victorian Branch, B.M.A.: Branch; last date of nominations for Council. Election of Scrutineers.
Nov. 11.—Victorian Branch, B.M.A.: Clinical Meeting Children's Hospital.
Nov. 12.—Victorian Branch, B.M.A.: Council.
Nov. 12.—South Australian Branch, B.M.A.: Council.
Nov. 12.—New South Wales Branch, B.M.A.: Clinical Meeting.
Nov. 13.—Queensland Branch, B.M.A.: Council.
Nov. 13.—Western Australian Branch, B.M.A.: Council.
Nov. 16.—New South Wales Branch, B.M.A.: Organization and Science Committee.
Nov. 17.—Tasmanian Branch, B.M.A.: Council.
Nov. 17.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
Nov. 17.—Illawarra Suburbs Medical Association, New South Wales.
Nov. 18.—Tasmanian Branch, B.M.A.: Branch.
Nov. 24.—New South Wales Branch, B.M.A.: Medical Politics Committee.

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